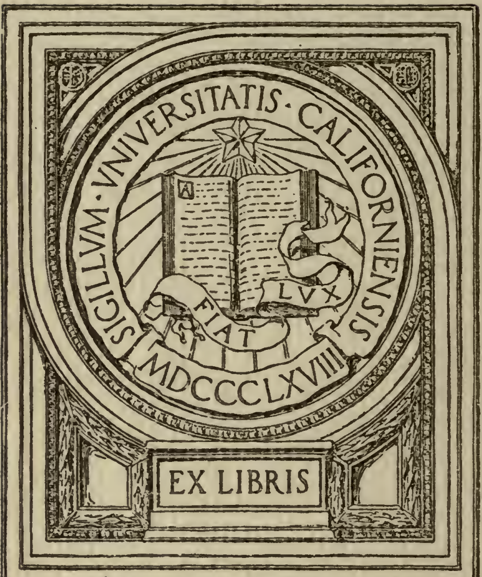
UC-NRLF
$B 40 423

YC 26869



EX LIBRIS

HALLIDIE LIBRARY

UNIV. OF CALIFORNIA

THE ELEMENTS OF LAND VALUATION,

brow

WITH

COPIOUS INSTRUCTIONS AS TO THE QUALIFICATIONS AND DUTIES OF VALUATORS.

BY

JOHN LANKTREE,

LATE LAND AGENT FOR THE MARQUESS OF LONDONDERRY'S ESTATES, IN THE COUNTIES OF ANTRIM, DERRY, AND DONEGAL.

HALLIDIE LIBRARY OF THE UNIVERSITY OF CALIFORNIA

DUBLIN:
JAMES McGLASHAN, 50, UPPER SACKVILLE-STREET.
WILLIAM S. ORR & CO., LONDON AND LIVERPOOL.
JOHN MENZIES, EDINBURGH.

1852.

HD 1387
.L3

DUBLIN : PRINTED BY ALEXANDER THOM, 87 AND 88, ABBEY-STREET.

PREFACE.

It would be difficult to overrate the importance to Ireland of having its land valuations properly executed. The island contains in all 20,808,271 statute acres, and the whole of this, with the exception of 650,000 acres, now covered with water, or occupied as towns, is in the hand of the farming population—subjected to the operations of tillage, or occupied as pasture.

The population directly employed in agriculture was, by the Census of 1841, 5,406,743: add to this, the landed proprietors, and their staff of dependents; the merchants trading in agricultural produce; the tradesmen employed throughout the country as smiths, carpenters, &c.; and the total number of individuals then actually dependent on land for their support, was not less than six millions. If the Census of 1851 reduce this number by nearly two millions, still the land remains; and the population yet lingering upon it is very large, any individual of which may be said to be personally interested in the work of land valuation.

That no treatise on Land Valuation in Ireland should have ever been published for general circulation, seems strange, considering the great importance of the subject; but the want of one was formerly less felt than at present, because excessive competition for land generally secured to landlords the full value of the soil. Many circumstances, however, at present combine to awaken attention to the subject: the potato blight of 1846; the abolition of protective duties on farm produce; the opening of our ports to unfettered commerce with corn-producing countries, where rents are unknown and taxes nominal; the extraordinary diminution of our rural population by famine and emigration; the consequent increase of waste farms; and the radical changes in the proprietary, effected by the operation of the Encumbered Estates Court. Previous standards of value do not now apply, and competition no longer exists to correct the estimates of the inexperienced. Even for fiscal purposes, successive governments seem to have considered existing valuations unsatisfactory, and have laid before the House of Commons various bills to regulate the whole subject.

An attempt, therefore, at present, to render some assistance to those who are interested in ascertaining the correct value of land, seems to be necessary, and the more particularly, as the market rates for agricultural produce, within the last four years, exhibit so little fluctuation, that an average scale of prices may now safely be assumed as a basis for constructing tables of value. How far the present work may supply the desideratum, the public must judge.

The professional valuator, who is thoroughly conversant with his business, will, probably, see little in this work of much service to him; for it is a book of elements, with most of which he has been long familiar: but it is hoped he will not be displeased to see an attempt made to exhibit the importance of his own office, and have it intrusted only to proper hands.

There is a large class of clever men who have had considerable experience in valuation, but have not enjoyed the advantages of much preparatory education, to whom these pages may offer some useful hints, which may prove serviceable if followed up.

Landed proprietors, to whose ranks so many additions are being daily made, will, it is presumed, not be offended, at a period of such perplexity, to have one book of reference which they can consult as to the value of their lands, of every description and quality, even under the altered circumstances of the times. When unreasonable demands are made upon them, and immense reductions sought for, those who are desirous fairly to acquit themselves of the responsibilities of their position as landlords, without going too far, may find some assistance here in the formation of a sound judgment, on a subject so important to themselves and their tenants.

The adoption of one general and approved guide to land valuation would be of national importance; for the heart-burnings which prevail in districts where unequal and dissimilar valuations occur, would cease, and the two great classes personally interested in the subject, perceiving and approving the principles of their contract, would have no further cause for misunderstanding, and mutual confidence and good will between landlord and tenant—the great basis of all national happiness and prosperity—would be restored.

CONTENTS.

PART FIRST.

ON THE MODES AND PRINCIPLES BY WHICH LAND VALUATION IN IRELAND HAS HERETOFORE BEEN REGULATED.

Chaps. Page

I. On the ancient practice as to setting land, . . . 1
II. On taking proposals for land by open competition, . . 3
III. On private contracts, ... 4
IV. On the results of incompetent Valuations, . . . 4
V. On the various principles advocated by valuators, . . 7
VI. On the reservation of one-third of the gross produce as rent, 9
VII. On the reservation of one-fourth of the gross produce as rent, 10
VIII. On the Scotch mode of readjusting Valuations by the market averages, ... 14
IX. On the partnership principle, ... 17
X. On making the letting-value the principle of Valuation, . 20
XI. On the General Valuation of Ireland for regulating the County Cess, ... 21
XII. On the rates and scale of Statute Prices regulating the General Valuation of Ireland, ... 26
XIII. On the Poor Law Valuation, ... 26
XIV. On the true principle of Valuation, ... 28

PART SECOND.

ON THE QUALIFICATIONS NECESSARY FOR COMPETENT VALUATORS, WITH REMARKS IN DETAIL ON THE NECESSITY OF A KNOWLEDGE OF AGRICULTURE, ETC.

I. Who should be valuators, ... 30
II. Of the qualifications of a valuator, ... 31
III. Of practical and scientific agriculture, . . . 33
IV. Mode of computing the contents of land, . . . 37
V. On geology, ... 42
VI. Of chemistry, ... 44

PART THIRD.

OF SOILS AND SUBSOILS.

I. The classification of soils, ... 46
II. Varieties in the classes of soils, ... 47
III. Siliceous soils, ... 47
IV. Calcareous soils, ... 49
V. Peaty soils, ... 50
VI. Subsoils, ... 50
VII. Local circumstances affecting the value of land, . . 52

PART FOURTH.

ON THE CLASSIFICATION OF SOILS IN REFERENCE TO THEIR VALUE.

Chaps. Page
I. On the primary divisions of land for valuation purposes, . 55
II. On arable land, ... 55
III. On grass land, ... 59
IV. On timber lands, ... 62
V. On bog land, ... 63
VI. Data assumed in forming a scale of prices, . . . 64
VII. Valuation scale for arable land per statute acre, . . 65
VIII. Valuation scale for grass land, ... 65
IX. Valuation scale for bog, ... 66
X. Valuation scale for arable land per Cunningham acre, . 67
XI. Valuation scale for grass land per Cunningham acre, . 67
XII. Valuation scale for arable land per Irish acre, . . 68
XIII. Valuation scale for grass land per Irish acre, . . 69

PART FIFTH.

ON THE PRACTICE OF LAND VALUATION.

I. The preparation of Valuation books, ... 70
II. The form of Valuation book given in the Digest of Evidence of the Devon Land Commission, ... 72
III. Field duties, ... 76
IV. External indications of the quality of land, . . . 78
V. Checking the Valuation, ... 80

PART SIXTH.

VALUATION TABLES, VIZ. :—

I. For converting Irish measure into statute, . . . 82
II. For converting Cunningham measure into statute, . . 83
III. For converting statute measure into Irish, . . . 84
IV. For converting statute measure into Cunningham. . . 85
V. Showing the relative proportions of an Irish and statute acre, 86
VI. Showing the relative proportions of an Irish and Cunningham acre, ... 86
VII. Showing the relative acreable value of Irish and statute measure, ... 87
VIII. Showing the relative acreable value of statute and Irish measure, ... 87
IX. Showing the relative acreable value of statute and Cunningham measure, ... 88
X. Showing the relative acreable value of Cunningham and Irish measure, ... 88
XI. Showing the value of an acre at a given rate per perch, . 89
XII to XXI Tables

HALLIDIE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA

THE ELEMENTS

OF

LAND VALUATION.

PART FIRST.

ON THE MODES AND PRINCIPLES BY WHICH LAND VALUATION IN IRELAND HAS HERETOFORE BEEN REGULATED.

I.—ON THE ANCIENT PRACTICE AS TO SETTING LAND.

In the feudal ages of Irish history land was held under a sort of military tenure.

The chiefs of the native septs held their office, not by hereditary descent, but by election, and had, therefore, only a life interest in the emoluments derived from their dominions.

Their vassals cultivated such portions of the territory on which they resided as they considered necessary and best suited to the description of crop they desired to grow.

A new division of the soil of each territory was made among the vassals on the accession of each new chief adapted to the altered circumstances of the tribe, and sanctioned by the voice of the people.

The power of the chief was necessary to preserve his vassals from the depredations of hostile neighbours or marauders; and, in return for the protection so afforded them, the vassals were subject to various dues and impositions, paid in kind, which were light or oppressive according as the times were peaceful or disturbed.

This arrangement was not conducive to the general prosperity of the people. It did not afford facilities for the acquisition of individual property, nor security for its permanent enjoyment.

About the commencement of the seventeenth century, the crown of England having obtained possession of large territories in various parts of Ireland, reconveyed it in small estates, and with a title in fee to undertakers, pledged to improvement, and with stipulations favourable to the farming population, who were relieved from the variable and uncertain impositions of military tenure, and permitted to hold land by lease at a fixed rent of moderate amount.

The rents thus paid by the farmers, (who from this period were no longer vassals, but tenants, not dependent for protection on the military strength of a chief, but on the power of British law,) were originally much less to the landlord than their descendants at present are obliged to pay to government in taxes.

The yeomanry of the country were now enabled to acquire property. They enclosed farms, built houses, multiplied cattle, and raised from the hitherto unbroken glebe large crops of enriching grain, which they were able to dispose of for money, capable of being exchanged for luxuries to which they had heretofore been strangers.

The improvements which were thus made, the prevalence of peace, and the increase of an industrious population, rendered land more valuable, and the proprietors availed themselves of every opportunity to increase the small amount of rent originally paid to themselves out of their estates.

Thus, by degrees, the relation of landlord and tenant, as it now prevails in Ireland, came to be established; and the unsatisfactory condition in which they stand to each other results from a prevalent desire, on the part of many proprietors, to retain in the dependence of the old semi-abolished military tenure those tenants who should be only bound by civil contract, and whose equitable claims should be legally recognised.

II.—ON TAKING PROPOSALS FOR LAND BY OPEN COMPETITION.

In the south and west of Ireland the usual mode of determining the rent of a vacant farm was to take proposals for it, and on all estates under the Court of Chancery it is still the mode recognised by law.

This practice is not without some plausible recommendations.

Theoretically it seems alike favourable to both landlord and tenant: to the former as the best means of procuring him the highest market value for his land; to the latter as the best preventive against being overrated.

Practically, however, it has not wrought well. Excessive competition has induced speculative persons without sufficient capital to offer prices for land which they are unable to pay; and it is to be feared, in many instances, never intended to pay. Such persons have readily entered into possession, hoping that the difficulty of enforcing payment might lead to a future reduction of the proposed rent.

It has also tended to the deterioration of land: persons who have offered too much for land, being tempted to overcrop it, and eventually to throw it up to the landlord in an exhausted state, much less valuable than it was before it was offered for competition.

It has sometimes failed in procuring even a fair rent. The influence of a former tenant in disturbed districts has prevented persons from proposing for land who might otherwise have been anxious to do so, but who feared to expose themselves to agrarian outrage.

It never could be justly resorted to in any district where tenants, in addition to the payment of rent, have been accustomed at their own cost to fence, drain, and make other improvements; the value of which, whether made by themselves, or purchased, or inherited, has been, by the recognised usage of the country, considered property, and a fair subject of bargain and sale. Now, to set land so circumstanced by proposals, would be tantamount to a confiscation of the tenant's equitable interest in the improvements created by his own capital, which is called tenant-right; and any unjust interference with this, in places where it has been acknowledged, would be productive of mischief.

A proper system of land valuation would not be open to these objections, and would, therefore, be more likely to give permanent satisfaction to all parties.

III.—ON PRIVATE CONTRACTS.

On some estates the practice has been, to fix the rent to be paid by private contract between the owner or agent of the land and the tenant.

On the fall of a lease or other determination of a previous tenure, the tenant goes to the rent office, and makes for himself the best terms he can.

On small estates where an accurate knowledge of the circumstances of every holding is possible, and where the agent and tenant meet on equal terms as to their knowledge of the capabilities of the land, private contracts are a fair and legitimate mode of dealing.

But on large properties, under present circumstances, it would be difficult to adopt this system with any advantage to the proprietor, as the contracting parties could scarcely be supposed to meet with equal knowledge as to the subject of their negotiation.

But if landlords were provided with an accurate valuation of their whole estate, made by a competent professional person, with the data which such a document would furnish, before them, private contracts might safely be made, and the valuation modified by a consideration of circumstances which deteriorated or enhanced the actual value of the land.

IV.—THE RESULTS OF INCOMPETENT VALUATIONS.

It has been already said that a proper system of land valuation was not open to the objections against taking proposals, and was therefore more likely to give permanent satisfaction to the parties interested.

But where are we to find such a system? There is not a county or barony, scarcely even a parish in Ireland, in which one approved system has been adopted.

On some estates a low scale has been adopted; on others the highest rate has been imposed that could possibly be extorted from a needy tenantry; and in many, a medium condition exists, where, without special encouragement or serious grievance, a neglected tenantry plod on as their fathers did before them, neither enlightened by the discoveries of modern science, nor stimulated to greater activity by the potato plague, nor by the equal desolation of their hopes and prospects effected by recent legislation, in the enactment of measures calculated to depreciate agricultural produce without securing any compensating advantage.

Land valuation, the most important labour to the happiness and existence of the masses of our population in which one could be engaged, is frequently intrusted to persons utterly unqualified to discharge its duties aright, and thus arises, as might be expected, the immense variation in the details.

These diversities of opinion in valuation are not errors of judgment merely, harmless in their operation, but they affect, with serious consequences, the whole social fabric of the country.

In a district where different standards of value have been adopted on contiguous lands, tenants who are rated high in comparison with their neighbours, are discontented and dispirited. Such persons are averse to make any improvement, and many of them refrain even from the amount of labour and attention which are absolutely necessary for their own comfort.

On the other hand, when lands have been let lower than their fair moderate value, contrary effects have been produced; some being stimulated to undue exertions and an imprudent expenditure of capital; while others have sunk into an indolent reliance on the natural powers of the soil to meet every exigency.

The character of landlords also is affected by the mode in which valuations are performed. Some are called good, merely because the standard adopted on their estates has been comparatively low; others, with equally good dispositions towards their tenantry, have the character of bad landlords, because a higher scale of valuation has been adopted on their lands. Thus the popularity of the one class and the unpopularity of the other depend in many instances on this—that the valuations of their respective properties were made by persons of unequal qualifications and experience.

Not the characters of landlords and tenants merely, but the physical aspect of the country itself, is influenced by its valuation; for the appearance of an estate where a fair and moderate standard has been used, is very different from one in which a higher scale has been adopted.

But there are other causes, independent of the foregoing considerations, to render attention to the subject indispensable. None of the scales of valuation in former use are now applicable to the country.

Circumstances have lately caused a vast difference in the present value of land throughout Ireland, as compared with its value some years back.

Poor rates were unknown in 1835, when the General Valuation was begun; they now press heavily on the land, and in many unions completely paralyse all agricultural industry.

Free trade also has opened our ports to the produce of lands unrented and untaxed, and the old protective duties which gave a factitious value to corn are abolished.

The potato crop has ceased to be a sure reliance to the farmer, who, when he was able to grow it in untainted luxuriance, could calculate upon it as an inexhaustible source of plenty. Its failure through a series of successive years has involved the country in incalculable misery, out of which it is only now beginning to emerge.

These circumstances demonstrate the necessity of a general new valuation adjusted to the altered condition of the country—a valuation on principles known and approved, carried out by qualified persons, and creating general satisfaction by the moderation and uniformity of its rates.

V.—THE VARIOUS PRINCIPLES ADVOCATED BY VALUATORS.

The greatest diversity of opinion exists among the whole class of land valuators as to the principle on which land should be valued. The most enlightened and the most ignorant appear equally at fault on this subject.

The Committee appointed in 1834, to inquire into the law and practice in respect to the occupation of land in Ireland, made extensive inquiries on the subject of valuation, and elicited copious evidence showing the absence of all uniformity, and the disagreement on the first principles of action, which valuators exhibited.

A majority of the witnesses examined seemed to be of opinion, that the true principle of valuation for rent was to be found in the establishment of a certain ratio or proportion between the gross produce of land and the amount to be paid to the landlord.

But among those who admitted the general principle that the rent should bear a fixed proportion to the produce, there was great diversity of opinion as to what the proportion should be. Some maintained that one-third of the gross produce should go for rent; others, one-fourth; many, one-fifth; some, one-sixth.

The great difference between these proportions will be best observed if the reader will take the trouble to calculate the effect they would have on an estate of any number of acres of land of medium quality, capable of yielding in gross produce to the value of (say) £5 per acre.

The effect upon society of adopting the principle that one-third of the gross produce should be taken for rent on a populous estate of medium land, occupying an area of four miles square, would be, as compared with the principle of taking one-fifth, to deprive at least 200 families of all means of subsistence, and to beggar the rest on whom they must depend either for voluntary or legal support.

But there are other valuators who reject as absurd the idea of establishing any fixed proportion between the rent and the gross produce, and profess to be guided solely by their own judgment and experience. Some of this class may occasionally be not far from truth in their valuations, but the difficulty is, that as all of this class are not gifted with the same experience or intelligence, there must of necessity be a great difference in the results of their labours; and that the deplorable effects described in the previous chapter are sure to be traced in any country where valuators follow the uncertain guidance of their own unassisted opinions.

Some intelligent writers recommend a sliding scale of proportion between the rent and produce, which would be adjusted according to the capabilities of the soil, and would give the landlord one-third of the produce on the best lands, one-fourth on medium, and one-fifth or less on inferior soils. This scheme is plausible, and, if necessity existed for the establishment of any proportion between rent and produce, would deserve attention.

Some educated professional valuators having ascertained the letting value of land, by a due consideration of the capabilities of the soil and the market prices of its produce, provide a mode for re-adjusting their valuation by the market averages of the district; thereby affording the landlord an increased rent if those averages exceed the prices on which the valuation was made; and equally relieving the tenant, by reducing his rent should those averages fall below the original scale. This principle, being extensively adopted in Scotland, will deserve more ample elucidation.

There is another principle which possesses claims for consideration: that the profits of husbandry should be divided between the proprietor and the farmer in the ratio of the time, skill, and capital respectively employed; the landlord's share being the marketable value of his land;

the tenant's share being an estimate of the capital invested in the cultivation of the land, augmented by an allowance for the time and skill devoted by the farmer in the active employment of that capital. This may be called the partnership principle, for the sake of distinction.

Finally, those who maintain that the only true principle of valuation is the letting value of land in its district, irrespective of any other considerations.

VI.—ON THE RESERVATION OF ONE-THIRD OF THE GROSS PRODUCE AS RENT.

Political Economists have divided the great instruments of agricultural production into three classes:—labour, capital, and land; and in like manner they have spoken of the produce itself as divisible into three proportions—wages, profit, and rent.

This, however, was never meant to countenance the theory that one-third of the gross produce of land should uniformly be taken as the standard of rent; on the contrary, Dr. Longfield, late Professor of Political Economy in the University of Dublin, when asked by the Devon Commission—

"Have you formed any opinion as to the proportion which rent ought to bear to the aggregate produce of a farm?" replied:

"I consider it perfectly impossible to form an accurate opinion upon such proportion. Among all those who are called political economists, however they disputed upon other matters and were not disposed to agree with each other, they all agree upon this—that there is no fixed proportion between produce and rent; that it must depend upon the state of the country, and, at the same time, the state of the land. There are lands upon which one-half would not be too much, and others upon which one-fifth would be excessive. It is well known that the sum necessary to be laid out on a crop varies."

"Is it your opinion that a calculation founded upon the assumed average prices for a number of years, and the value of the productive powers of the farm, and the assumed proportion that that ought to bear to the gross produce, is a fallacious test?

"Yes. I do not think that any man who ever lived, having all the data given to him, could with any certainty determine it. He would still be unable to form a judgment of the aggregate value of the produce of the land. Mr. Loudon, in his book on agriculture, speaks of the way of determining the value of the land; but, however, he adds, in practice it will be impossible to do it. He leaves you just where you were, stating that it is a theory, but a theory which never could be applied in practice."

The late Dr. Coventry, of Edinburgh, Professor of Agriculture, would only allow the landlord to receive one-third, when the estimated gross produce of land per acre amounted to £10 10*s*. The prices for grain were then much higher than at present, but the cost of labour about the same. The learned professor therefore constructed his table on calculations which admitted that £7 per acre, (which is the remaining two-thirds of the gross produce,) was a fair amount to allow the tenant of such land for his expenses and profit. But if this amount were now allowed to the tenant (and it would be quite as just now as then), there would be nothing for the landlord on the best lands in Scotland.

VII.—ON THE RESERVATION OF ONE-FOURTH OF THE GROSS PRODUCE AS RENT.

The Earl of Mountcashel, a large landed proprietor, of great intelligence on all matters relative to land, detailed to the Land Commission of 1844 his views as to the justness of appropriating one-fourth of the gross produce of land to the landlord, and the universality of the principle. The following is his own exposition of this favourite theory:

"I suppose that land will produce a rotation of three crops: I commence with potatoes, and have taken wheat for the second year, and for the third year I take oats. I then divide the land into various qualities. I have taken No. 1 as being the very richest of our land, then No. 2 as being something inferior to that. I have given six examples; but the Commissioners will recollect that although I have only given six, those six will not apply to every quality of land—there will be intermediate qualities of land; but, if I prove the principle to be good, it is very easy to adapt it to any quality of land which may produce something more or something less. The whole principle is to ascertain, what is an acre of land in the country capable of producing for three years in succession, and then taking the average price of such produce; and that is what I have worked out on this plan. Then having got those three years' crops, I add them together, and it makes a total of £26 in the three years. I divide it by three in order to get the average amount, which will be £8 13*s.* 4*d.* I then divide by four in order to get the fourth part, and the fourth part will be £2 3*s.* 4*d.*, and that, I say, ought to be the rent for the first class land, leaving three-fourths to the tenant. I then work this in a similar way upon the next quality of land, and bring out as the rent £1 18*s.* 6*d.* For the third quality, £1 9*s.*; the fourth quality, £1 2*s.* 5½*d.*; the fifth quality, 13*s.* 7*d.*; the sixth quality, 7*s.* 10*d.* per acre. I have stated before that there may be intermediate land; but, if the principle is a right one, it is a principle by which you may ascertain the value of any land, and what ought to be paid as a fair rent for it.

No. 1.

				£	*s.*	*d.*
First year,	Potatoes,	60 barrels,	(8t. 8c. 3q.) at 4s.,	. 12	0	0
Second do.,	Wheat,	8 do.,	(37 bushels 20lbs.) 25s.,	10	0	0
Third do.,	Oats,	10 do.,	(51 bushels 22lbs.) 8s.,	4	0	0
				3)26	0	0
				4) 8	13	4
Rent per acre, ...				. 2	3	4

No. 2.

	£	s.	d.
First year, Potatoes, 60 barrels, (8t. 8c. 3q.) at 4*s*., .	12	0	0
Second do., Wheat, 6 do., (28 bushels) 25*s*., .	7	10	0
Third do., Oats, 9 do., (46 bushels 16lbs.) 8*s*.,	3	12	0
	3)23	2	0
	4) 7	14	0
Rent per acre, ...	1	18	6

No. 3.

	£	s.	d.
First year, Potatoes, 50 barrels, (7t. 2q. 14lbs.) at 3*s*. 6*d*.,	8	15	0
Second do., Wheat, 5 do., (23 bushels 20lbs.) 25*s*.,	6	5	0
Third do., Oats, 6 do., (30 bushels 36lbs.) 8*s*.,	2	8	0
	3)17	8	0
	4) 5	16	0
Rent per acre, ...	1	9	0

No. 4.

	£	s.	d.
First year, Potatoes, 40 barrels, (5t. 13c. 2q.) at 3*s*. 6*d*.,	7	0	0
Second do., Wheat, 4 do., (18 bushels 40lbs.) 23*s*.,	4	12	0
Third do., Oats, 5 do., (25 bushels 30lbs.) 7*s*. 6*d*.,	1	17	6
	3)13	9	6
	4) 4	9	10
Rent per acre, ...	1	2	5½

No. 5.

	£	s.	d.
First year, Potatoes, 30 barrels, (4t. 4c. 1q. 14lbs.) at 3*s*. 6*d*., ...	5	5	0
Second do., Oats, 4 do., (20 bushels 24lbs.) 7*s*.,	1	8	0
Third do., Grass to fatten three sheep, ...	1	10	0
	3) 8	3	0
	4) 2	14	4
Rent per acre, ...	0	13	7

No. 6.

	£	s.	d.
First Year, Potatoes, 20 barrels, (2t. 16c. 1q.) at 3*s*., .	3	0	0
Second do., Oats, 3 do., (15 bushels 18lbs.) 6*s*.,	0	18	0
Third do., Grass to fatten two sheep, ...	0	16	0
	3) 4	14	0
	4) 1	11	4
Rent per acre, ...	0	7	10

The foregoing details suggest the following remarks:—

1. They fail to prove the principle for which the noble earl was contending. They exhibit an account only as regards the landlord, but none as to the tenant. To have demonstrated the principle, they should have shown the debits against the crop incurred by labour, seed, taxes, &c., and, *that the surplus was sufficient to give the farmer a fair profit*, and the landlord one-fourth of the produce as rent.

2. Compare the estimate No. 1, for prime land, with No. 4. The crops grown are the same in both; but in No. 4, the expenses for seed and labour are greater than in No. 1, because it is well known that good land is easier laboured, and requires less seed than bad. Yet in No. 1 the gross produce is £26, from which deduct one-fourth for rent, £6 10*s*., and the balance left to the tenant for seed, labour, and profit, is £19 10*s*. On No. 4, where the expenses are greater, the gross produce is only £13 9*s*. 6*d*.—so that the tenant on this land has lost £6 0*s*. 6*d*. of the fair return which he should have had on No. 1, *to his own share;* and yet with the result apparent on his own calculations, the noble earl considers that he should suffer a further loss, to the extent of one-fourth of that wretched produce, as a payment to his landlord.

3. The calculations are founded upon an assumed rotation not usual on his lordship's estate—nor in Ireland—*nor possible* under ordinary circumstances. The farmer who would manure the third part of his farm every year, should have ample resources provided for house-feeding a stock of cattle capable of producing that manure; but the triennial rotation supposed above provides no green food, nor food of any kind whatever for nine months of the year, and for the other three months there is only a little dry straw, which would make but little manure, and that little—bad.

4. The calculations given as to the prime land, No. 1, allow the tenant £6 10*s*. per acre to himself, to cover all expenses and profit—whereas, on No. 6, an inferior soil, the whole produce of three acres amounts to only £4 14*s*.,

out of which the landlord claims one-fourth, or £1 3*s.* 6*d.*, leaving to the tenant in all, only £3 10*s.* 6*d.*, being at the rate of £1 3*s.* 6*d.* per acre for seed, labour, taxes, and profit on the most laborious system of farming that could be practised. The only difference of expense between the labour of this and No. 1, being the ploughing of one statute acre of stubble, say 8*s.*; and three bushels of seed wheat, at 5*s.* 4*d.* per (the price assumed above), 16*s.*—£1 4*s.*

5. It is clear, therefore, that the theory which would give to the landlord the fixed proportion of one-fourth of the gross produce for rent, out of all soils, is untenable, and the remarks which apply to this, are equally applicable to any fixed proportion whatever.

VIII.—ON THE SCOTCH MODE OF RE-ADJUSTING VALUATIONS BY THE MARKET AVERAGES OF THE DISTRICT.

Extracted principally from the evidence of Mr. George Robertson, before the Land Commission.

Valuators in Scotland, in reporting their valuations, usually inserted a clause to the following effect:—Assuming the price of wheat, barley, and oats, the staple produce of the farm, to average (for the period of the lease), say 96*s.* per triple quarter, and well-fed butchers-meat 6*s.* per imperial stone, the rent of the farm, A. B., should be as under. There followed the detailed valuation of each field; after which a memorandum to the following effect was generally added—upon the principle above stated, the rent of A. B. would amount to £684 yearly. But as the price of corn is fluctuating, and the Corn Law of doubtful operation, perhaps it would be more equitable, if, instead of the whole rent being paid in money, a part at least should be paid in grain. The reporter, therefore, is humbly of opinion, that the rent of A. B. should be £300 in money, with the fiars price of eighty quarters of wheat, eighty quarters of barley, and eighty quarters of oats, yearly. The money rent of £300 forming the first payment to account of the crop, the grain at the average price, according to the returns for the current year, being the last payment; but the rent never to exceed £684, whatever the average price of the grain for the year may amount to—that is the maximum. Perhaps £500 or £550 a-year might be agreed upon as the minimum.

The fiars prices above mentioned are thus ascertained. In February of every year the Sheriff of the county summons a competent number of persons living within the sheriffdom, who have knowledge and experience of the price and trade of victual in their bounds, and from them he chooses fifteen men, whereof not fewer than eight must be proprietors. These meet in the beginning of March, and strike an average of the prices of the different kinds of grain, the produce of the county for the preceding crop—proceeding upon the evidence of seven witnesses of the prices received by them for grain sold in the months of November, December, January, and February. These averages are called the fiars prices of the county, and are accounted the legal prices when the prices have not been determined otherwise by covenant.

The mode in which a money-rent is converted into a corn-rent is thus. By the Corn Law of 1815, the remunerating price for wheat was admitted to be 80*s.* per quarter, and the import duty fixed so as to secure that price as it was expected to the grower, in order to enable him to pay the rents then exacted. This law was found not to work well, and in 1828 it was repealed and another act passed, wherein the remunerating price was understood to be not less than 62*s.* per quarter for wheat, 33*s.* for barley, and 25*s.* for oats; or 120*s.* for the triple quarter of wheat, barley, and oats. As may be readily imagined, valuations were made by surveyors, and farms taken by tenants upon the principles laid down in each of these acts; but the price of corn still continuing to drop, notwithstanding these prohibitory duties, rents were soon found to be too high. In order to meet this state of affairs, nothing was left but to give relief to the tenant, by making rents correspond or fluctuate with the price of corn ; and accordingly, the conversion of money into grain rents, at the rate per quarter which grain was calculated to bring when the existing leases were entered into, came into operation in the more improved districts of Scotland. Perhaps this may be more clearly explained by giving an example or two of the mode of converting a money-rent into a grain-rent, payable by the fiars of the county each year.

A farm of 300 imperial acres, of good sound loam, adapted for both wheat and turnip husbandry, was taken in 1829 upon the principle, or at least in the belief that corn would bring the price upon which the Corn Law of 1828 was framed—that is, 62*s.* for wheat, 33*s.* for barley, and 25*s.* for oats; or 120*s.* for the triple quarter for a period of 19 years; the rent agreed upon being £600. To convert this money into a grain-rent, the operation is, to divide the rent (£600) by the price of the triple quarter, viz., 120*s.*, or £6—the result is 100 triple quarters, or 100 quarters of wheat, 100 quarters of barley, and 100 quarters of oats, payable in money at the fiars prices of the county yearly. When the prices of grain fell, so that wheat was 48*s.*, barley 23*s.*, and oats 15*s.* per quarter each, the rent fell in proportion, thus—

100	quarters of	Wheat	at the fiars prices of 1842, say	48*s.*	£240
100	,,	Barley	,, ,, ,,	23*s.*	115
100	,,	Oats	,, ,, ,,	15*s.*	75
		Rent for 1842,	. . . .		£430

Again, suppose a farm of cold inferior soil in the northern counties of England or Scotland, the staple produce of which is barley, oats, grass, and turnips, under the convertible husbandry, to be entered to on a lease for 19 years in 1829 or 1830, on the implied belief that barley would fetch on an average during the lease 33*s.*, and oats 25*s.*, as assumed in the Corn Law of 1828, and the rent to be £300 yearly—the conversion would be as follows:—58*s.* being the prices of the double quarter of oats and barley, divided into £300, gives $103\frac{13}{29}$ double quarters as the equivalent for rent, therefore—

		£	s.	d.
$103\frac{13}{29}$ quarters of Barley at the fiars prices for 1842, say	23*s.*	118	19	3
$103\frac{13}{29}$,, Oats ,, ,, ,,	15*s.*	77	11	8½
Make, instead of £300, a rent of		£196	11	0

"In England the average price of corn at Mark-lane may be taken as the rule, deducting an allowance per quarter for carrying to London; or the general average of all the market-towns included in the new schedule may be the rule of division.

"Or the converted rent may be ascertained by the following proportions, viz. :—

120 : 86 :: 600 : 430
58 : 38 :: 300 : 196 11 0.

Although the law of the land in respect to the protective duties on grain, on which the foregoing details were based, has been recently abrogated, so that they are no longer explanatory of recent bargains in land, yet they are very well deserving of attention, as elucidating a principle by which the most enlightened agriculturists were enabled to adjust contracts made under a system of heavy import duties on grain, to a system under which much lighter duties were imposed; so that the rent in both cases represented exactly the same proportion of grain per acre, at the average market prices of the different periods.

IX.—ON THE PARTNERSHIP PRINCIPLE.

The partnership principle of valuation seems to be—as before stated—that the profits of husbandry should be divided between the proprietor and farmer in the ratio of the time, skill, and capital respectively employed by them; the landlord's share being the marketable value of his land; the tenant's share being a fair estimate of the capital invested in the cultivation of the land, augmented by an allowance for the time and skill devoted by the farmer in the active employment of that capital.

The earth, according to this theory, is a large manufactory of agricultural products—the material to be operated on is the landlord—the tools and labour are the tenants—the gross produce is subject to their joint claims in proportions settled among themselves.

In ordinary commercial partnerships, the principal things by which the relative proportions of the partners are regulated are three—1st, the amount of capital which they severally advance; 2nd, their individual competency to transact the business; 3rd, the time intended to be devoted by them severally to the business.

If these three things be equal with the partners—if they contribute the same amount of capital—the same degree of attention—and have equal knowledge of their business, they share the profits alike.

If one partner conduct the entire business, and the other be inactive—or what is called a sleeping partner—the acting partner either receives a salary for his labour in addition to his share on the subscribed capital, or he is permitted to contribute less capital, and the sleeping partner contributes the greater proportion—thus supplying to the concern in capital what he wants in individual labour.

The case between landlord and tenant resembles partnerships of this nature; the tenant is the acting partner, contributing a small capital, but giving all the labour necessary to realize the product; the landlord is the sleeping partner, he gives the land, which in a country like Ireland, is usually of greater value than the capital required for its labour and occupation.

If the land be such that the tenant's labour, and the capital employed in its improvement and cultivation, are of value equal in amount to the marketable value of the landlord's interest, then the net profits, after deducting the expense of labour, should be divided equally between them.

If the landlord's interest be the greater, he should have a greater share of the surplus produce than one-half.

If the tenant's interest be the greater, he should have the larger proportion in like manner.

The foregoing theory is ingenious, but its practical application in the case of every farm would imply a series of nice calculations, the data for which could not be supplied with sufficient accuracy. In balancing the account of capital between landlord and tenant, there would be, as regards the former, the difficulty of ascertaining the real market value of his interest, which is influenced by many considerations of varying amount. In the case of the tenant, there would be, in like manner—1st, the estimate of his invested capital, which would depend on the rotation he pursued; 2nd, the value of his superintendence, which would depend very much on his experience and his education; but without positive certainty on these points, there could be no real accuracy in any balance sheet of capital between landlord and tenant.

In various extensive districts of the Continent of Europe, there is a real and understood partnership between the proprietor of the soil and the cultivator; in this, called the Metayer system, the landlord contributes not only the land, but also all the stock and capital necessary for its cultivation ; the farmer merely executes the labour ; and the produce is equally divided between them.

In the North of Ireland and in other districts, where all the improvements in building, fencing, clearing, and draining have been done by the tenant, the partnership principle of valuation has been argued on stronger grounds than those of analogy merely. The digest of evidence taken before Her Majesty's Commissioners of Inquiry into the state of the law and practice in respect to the occupation of land in Ireland, states, "It is difficult to deny that the effect of this system is a practical assumption by the tenant of a joint partnership in the land; although those landlords who acquiesce in it do not themselves acknowledge this broad fact, and that the tendency is gradually to convert the proprietor into a mere rent-charger, having an indefinite and declining annuity—or the lord of a copyhold."

In all such cases, if valuations were made on the simple principle—that the surplus produce of the soil, after defraying all expenses for seed, labour, and taxes, should be equally divided between landlord and tenant—and that this principle were understood and approved by both parties, it would be easy to work it out, as in itself it is not objectionable.

X.—ON MAKING THE LETTING VALUE OF LAND THE PRINCIPLE OF VALUATION.

The letting value of land, the amount it should bring in its position, and, considering the circumstances of the country, is the principle on which the majority of valuators act.

But this might be greater or less than the true value, and would be therefore an unsafe guide to regulate a valuation of any magnitude.

The true value of land is the profit it is capable of yielding to an intelligent agriculturist pursuing a proper system and employing adequate capital, and this should be shown in every proper valuation — 1st, irrespective of circumstances; 2nd, as modified by those circumstances either in raising or diminishing the true value.

An estate of prime land, worth 25*s.* per Irish acre, may be in the occupation of a poor, indolent, ignorant tenantry, totally unable to pay for it more than half rent, and it might be so situated that if it were offered by proposals to public competition, it would not realize more than 12*s.* 6*d.*: this would then be its maximum letting value under those circumstances.

The duty of a proper professional valuator, acting on a correct principle, would be, in such a case, to set down the land at its true value, 25*s.*, and, at the same time, to remark in his column for observations—"This rent, it is to be feared, cannot be obtained in the present state of the tenantry, who have not means nor knowledge to realize half the value of the land, and could not probably pay more than about 12*s.* 6*d.*; but, if means be adopted for their improvement, the land should be worth the value set forth."

By adopting this plan the valuator would discharge his duty, and it would then remain for the agent and proprietor to do theirs by aiding the weak, instructing the ignorant, shaming the indolent, and stimulating the improving. Efficient management might in this way realize the valuator's estimate.

The uniformity of the General Valuation of Ireland is owing to the great pains taken by the valuators to ascertain and judge of the quality and character of the soil from its natural capabilities. Had they been influenced by the letting price, the lands west of the Shannon would have been from 12 to 25 per cent. lower than those of the same natural quality on the east of that river, in consequence of the bad farming and poverty prevailing in Connaught, and the entire valuation would have been disgraced by inequalities and inconsistencies which would have been fatal to its authority.

XI.—THE GENERAL VALUATION OF IRELAND FOR REGULATING THE COUNTY CESS, COMMONLY CALLED THE ORDNANCE VALUATION.

The following account of the mode in which the Ordnance Valuation of Ireland was carried into effect, was furnished to the Devon Land Commission by Richard Griffith, Esq., Commissioner of Valuation :—

"The General Valuation of Ireland, placed under my direction, is regulated by a scale of prices for agricultural produce, introduced into the Valuation Act, 6 and 7 William IV., cap. 84; which scale of prices was founded on the average prices of agricultural produce throughout the principal maritime markets of Ireland, during a given period, when the value of agricultural produce was considered to be low. Thus, the scale of prices being taken from the actual average value of each commodity, may be considered to be relative—whether the average prices at the present or a future time be higher or lower.

"In carrying the valuation into effect, the object to be attained was, that all lands throughout Ireland should be valued relatively, according to the schedule of prices for agriculture contained in the act; and that the same scale of value adopted in the northern counties should be continued throughout, so that the lands of the counties of Derry and Antrim, which were first valued, and those of Cork and Kerry, which will be the last, shall be found on the completion of the work to be relatively valued, all the peculiar local circumstances of each being taken into consideration.

"Previously to commencing the valuation of the counties of Derry and Antrim, in the year 1830, I ascertained that the general average prices for agricultural produce throughout the principal markets of Ireland, for the preceding five years, were one-eighth, or 2*s.* 6*d.* in the pound higher than those contained in the act; and consequently the amount of valuation, according to the act prices, should be in each case one-eighth less than if the valuation were made according to the then prices.

"In order to carry out this principle, I found it necessary to relieve the minds of the valuators from all care, except the determination of the value of the land under consideration—the land being supposed to be in an ordinary situation, that is, from ten to fifteen miles distant from an export market, without reference to the scale of prices contained in the act, or to local circumstances, whether in addition or deduction; the object to be obtained being, that the scale of value for certain qualities of land in an ordinary situation adopted in the counties of Derry and Antrim should be preserved; and to ascertain this, I am in the habit of sending, for the purpose of comparison, some of the best valuators, who had not been employed in the commencement, from the midland counties, to value certain townlands, the value of which had been well ascertained; and I have the pleasure to state, that these checks have in all cases proved satisfactory; and I have no doubt that the valuators at present employed in the western and midland counties, are valuing the land on the same scale as that on which we commenced.

"The general instructions given by me to the valuators were: that they should value the land on a liberal scale, that is to say, in the same manner as if employed by one of the principal landlords of the country, who was about to let the lands to solvent tenants, on leases, say of twenty-one years; that they were to judge of the value of the land, not by its appearance to the eye, but by digging up the surface, and in this way ascertain the nature, quality, and depth of the soil, and the quality of the subsoil; that land of the same quality and circumstances, though badly farmed, was to be valued at the same rate as similar land well farmed, clean, and in good order; but that all permanent improvements, such as drains, good fencing, good roads, &c., were to be taken into consideration. By this means the industrious farmer who tilled and manured his land well, would not be taxed more than his indolent neighbour, who was similarly circumstanced, but who did not take advantage of his situation.

"It is to be observed, that land, clean, and in a high state of cultivation, may, by imperfect tillage, and a succession of white crops, be deteriorated in a few years; and consequently it would be unjust, in a permanent valuation, to rate the land high, solely on account of its being well cultivated at the time the valuation was made. On the other hand, land which is in a bad state, owing to mismanagement, should not be valued quite as low as its present condition would suggest.

"Lands which have never been tilled are valued as pasture, though, from the nature of the soil and subsoil, they may be capable of being tilled and improved; such land is valued at a price per acre proportioned to the number of cattle, sheep, &c., it may be capable of grazing throughout the year; the price per head being regulated according to the usual price per head paid in the neighbourhood for grazing, the quality of the herbage being taken into consideration; of course where the soil and subsoil are good, the quality of the herbage will be superior, and the value will be regulated accordingly. I have entered into this detail in consequence of an erroneous opinion having prevailed, that in the General Valuation lands were valued at the same rate according to their natural quality, whether improved and cultivated, or in a state of nature; but this is not the fact, the land being valued in each case at the rate it would reasonably let for by lease to a solvent tenant in the state in which it is found.

"In regard to the difference between the valuations of land adopted by me under the act and the actual letting-value, I have to observe, that our valuation is about 25 per cent. under the full rent value, but very near that of many of the principal landed proprietors of the country. Thus in the parish of Aghanloo, county of Derry, the valuation of the townlands as contained in the printed schedule, rarely differed so much as one shilling in the pound from the proprietor's rental; the same fact was observed respecting the rentals of the different London Companies, as well as of other proprietors in the county of Derry; while the full rents under ordinary small proprietors were usually 25 per cent. above the amounts given in the printed schedule. Similar facts were observable in other counties, and I have lately noticed several remarkable coincidences of the same kind in the counties of Tyrone, Cavan, Monaghan, &c., so that it would appear that the scale of value adopted by me, under the act, is nearly that of the great landed proprietors of Ireland, but considerably below the ordinary rents; acting on this knowledge, I have uniformly replied to applications from the Guardians of the Poor Law Unions in different parts of the country, respecting the addition that should be made to the amount contained in the printed schedules of the General Valuation, to bring it to a rent value, that if one-third be added, the result will give very nearly the full rent value of the land under ordinary proprietors.

"The foregoing observations will apply to all lands to the eastward of the Shannon; but within the last year, in comparing the valuations made in the county of Roscommon, with the average letting prices of land in that county, I find that our valuation is not more than 2*s.* 6*d.* in the pound, or 12½ per cent. under the letting rents; this does not arise from any change in the relative scale of the valuations, but is owing to the poverty of the people, and the injurious system which prevails of burning the upland soils, for the purpose of raising crops without the aid of ordinary manure, or even lime, which is abundant in the country; hence the land, though intrinsically of equal value with similar lands in the counties of Longford and Westmeath, on the east side of the Shannon, does not bring so high a rent; and yet the people on an average are not nearly so well off as those of Westmeath and Longford—their houses as well as their food and clothing being inferior.

"In regard to houses, the valuation is determined by measurement, according to the nature, quality, and state of repair of the building, and the result is deduced from tables calculated for the purpose. In these tables, houses are divided into three principal classes—namely, new, medium, and old, but each class is again subdivided into three.

"According to the act, one-third of the amount of the value of all buildings is deducted previously to their insertion in the printed lists, and, consequently, to determine the full value of any house or building, one-half is to be added to the amount given in the printed schedule.

"With a knowledge of the above facts, there can be no difficulty in using the General Valuation as the groundwork for all local taxation; but as this valuation does not subdivide the townlands into farms and tenements by name, though the valuation lots already mentioned are usually co-extensive with farms, a sub-applotment will be required for each townland, which sub-applotment, for the purposes of the county assessment, has already been made in the northern counties."

XII.—ON THE RATES AND SCALE OF STATUTE PRICES, REGULATING THE GENERAL VALUATION OF IRELAND.

The scale of prices laid down in the Act 7 Geo. IV., cap. 62, sec. 7, for the uniform valuation of lands in Ireland, was as follows :—

Wheat,	at 10*s.* per cwt. of 112 lbs.	Butter,	at 69*s.* per cwt. of 112 lbs.
Oats,	at 6*s.* ,, ,,	Mutton,	at 34*s.* 6*d.* ,, ,,
Barley,	at 7*s.* ,, ,,	Pork,	at 25*s.* 6*d.* ,, ,,
Potatoes,	at 1*s.* 7*d.* ,, ,,		

The valuation rates, per statute acre, established in conformity with the above scale, were :—

Prime Soils.	1st, from 30*s.* to 27*s.* 6*d.*	Poor Soils.	1st, from 11*s.* to 9*s.* 6*d.*
	2nd, from 27*s.* to 25*s.* 6*d.*		2nd, from 9*s.* to 7*s.* 6*d.*
	3rd, from 24*s.* to 21*s.* 6*d.*		3rd, from 7*s.* to 4*s.* 6*d.*
Medium Soils.	1st, from 21*s.* to 17*s.* 6*d.*	Moory Soils.	1st, from 15*s.* to 11*s.* 6*d.*
	2nd, from 17*s.* to 14*s.* 6*d.*		2nd, from 11*s.* to 7*s.* 6*d.*
	3rd, from 14*s.* to 11*s.* 6*d.*		3rd, from 7*s.* to 4*s.*

But, in the recent Act, 15 and 16 Victoria, chap. 63, sec. 11, intituled "An Act to amend the Laws relating to the Valuation of Rateable Property in Ireland," the scale of prices has been materially altered, as laid down in the following table :—

Wheat,	at the general	average price of	7*s.*	6*d.*	per cwt. of 112 lbs.
Oats,	,,	,,	4*s.*	10*d.*	,,
Barley,	,,	,,	5*s.*	6*d.*	,,
Flax,	,,	,,	49*s.*	0*d.*	,,
Butter,	,,	,,	65*s.*	4*d.*	,,
Beef,	,,	,,	35*s.*	6*d.*	,,
Mutton,	,,	,,	41*s.*	0*d.*	,,
Pork,	,,	,,	32*s.*	0*d.*	,,

And these prices are to be taken into account in every valuation, with regard to the land, hereafter to be made under the provisions of this Act.

XIII.—ON THE POOR LAW VALUATION.

The General Valuation of Ireland, intended by Government to form the basis of a fair and impartial imposition of county cess, was not fully complete before another government valuation was begun, under the direction of the Poor Law Commissioners.

The County Cess Valuation, (under the 7 Geo. IV., cap. 62,) was in principle—not by the apparent or letting value of the land, but by its inherent value—estimated from a consideration of its natural powers of production, viewed in connexion with a given scale of prices, as to the value of the produce. This insured uniformity, and afforded to the country general satisfaction.

To have adopted this valuation for the imposition of poor rates, would have had the effect of placing on landlords generally the greater part of the rates, as their rents were, for the most part, higher than the County Cess Valuation; and the original Poor Law Act required landlords to allow their tenants half the poundage rate, for every pound of rent they received.

Hence, it was decided to have a new valuation, which was to be regulated solely by the letting value of the land, and to be under the direction of the Boards of Guardians, which were composed in themselves of discordant elements, and differing from each other as to the scale which should be adopted.

The County Cess Valuation was intrusted only to persons of professional competence, all whose labours were regulated by one system; but the Poor Law Valuation was performed by persons from whom high professional ability was not expected. The Commissioners, in their Seventh Annual Report, say, "There are certainly cases in which undue favouritism, or prejudice, or party feeling has influenced a Board of Guardians to select incompetent or improper valuators." And with respect to the Boards of Guardians themselves, the same Report says, "They have in some instances been led to form erroneous notions of what the law in strictness requires; and, perhaps, in a majority of cases been influenced by a kindly feeling, or by other motives, to promote an under valuation of the property; but this, I believe, has in the main been all *bonâ fide*, however, erroneous."

The general result has been, that, taken as a whole, the Poor Law Valuation is a work of no authority; it was done too cheaply and too hurriedly to be well done; and if it is desired at any future period to give it that character which its national importance requires, its management and revision must be committed to one central authority, with power to appoint competent persons, and to issue such instructions as will insure uniformity.

XIV.—THE TRUE PRINCIPLE OF VALUATION.

The true principle of valuation is, that the landlord's share is the surplus which remains of the produce of the land, after defraying all the expenses incident to its cultivation, including interest in the capital employed, and a fair allowance for superintendence.

If a proprietor farm his own lands, he is obliged to pay for seed, labour, taxes, implements, stock, and superintendence; and whether he have the capital within himself which all these require, or whether he have to borrow from another what is necessary, in either case he looks to receive interest on that capital.

The only possible advantage he can derive from his land, is the surplus which he realizes, after all these charges have been defrayed.

If the proprietor be averse to the responsibility and annoyance of the personal management of his lands, and let them to others, he expects to receive in rent an equivalent for that surplus which he derived from his own occupation.

The tenant with whom he treats being subject to the same charges, and entitled to the same allowances, saves the item which the proprietor paid for superintendence, and satisfied with the moderate, but constant reward of his industry, hands the surplus to his landlord.

The proportion which this surplus bears to the gross produce, is varying and uncertain, and cannot, as a general rule, be exactly defined on lands of known quality; it may bear a certain average ratio—it may be a fourth, a fifth, a sixth, or it may be none of them. That it may have frequently stood to the gross produce in the ratio of some of these numbers cannot be denied; but this, under any circumstance, must have been fortuitous; and to make an accidental coincidence of this nature, a rule to determine all cases, no matter how dissimilar, is manifestly absurd.

The object of correct valuation is, therefore, not to assume a certain fanciful proportion between rent and produce, but to ascertain by calculation what surplus each variety of soil is capable of affording, after discharging all expenses of tillage, and to form a scale of value on this principle, suitable for every description of soils.

To discriminate and classify soils is the first duty of the valuator.

To adjoin a scale of prices suitable to the several varieties of land is the next.

This scale is formed from a consideration of the market averages of the district, for a period of years immediately antecedent to the valuation, during which the commercial value of agricultural produce, undisturbed by circumstances of any considerable magnitude, has been subject to little fluctuation, and seems likely to be tolerably steady; also from a correct estimate of the average fair cost of labour, and all expenses incident to the cultivation of the soil.

A knowledge of the capabilities of the soil, and the marketable value of its produce, enable a valuator to estimate its gross proceeds—a calculation of the expenditure necessary to realize those proceeds, and of the charges to which they are subject, deducted from the gross produce, will show the surplus out of which the rent is to be paid.

Yet it must be admitted, that the data for these calculations are not yet sufficiently ascertained and settled, to enable us to do more than make an approximation to perfect accuracy and truth.

In any attempt to test the principle of valuation here set forth, let an account be opened for land, making it debtor to its expenses, and charges of every sort (except rent), and creditor by its proceeds; and let this account embrace the whole period of an ordinary rotation suitable for the land. A balance to credit will exhibit the surplus fund available for rent, which is, therefore, "The surplus remaining from the annual profits of the soil, after all reasonable charges, incident to its cultivation, have been defrayed."

Knowledge of Agriculture &c.

PART SECOND.

ON THE QUALIFICATIONS NECESSARY FOR COMPETENT VALUATORS

I.—WHO SHOULD BE VALUATORS.

Land Valuation being a work of great importance—the happiness and prosperity of millions depending on its proper exercise—it should, unquestionably, be confided only to proper persons, professionally educated and trained for the purpose.

Agents, to whom the management of landed property is intrusted, ought to understand valuation thoroughly; but it would be better that they should not value the lands over which they are placed.

They hold office, ordinarily, by virtue of a power of attorney from their employers, and are bound, under a heavy penalty, by bond, to perform their duties to the best of their ability for the benefit of the proprietor. Many are inclined to interpret this obligation by a reference solely to that which would raise the landlord's income highest. If a case arose, where a doubt existed as to a certain valuation, whether it should be 20*s.* or 25*s.* per acre, on a farm of 100 acres, the landlord—not the tenant—would, with such persons, receive the benefit of the doubt; and the tenant might be compelled to pay £25 per annum beyond the actual value of his holding, without redress or alternative, except to remove and abandon a property on which he might have expended much unredeemed capital.

In case of such hardship, remonstrance is not sure to be successful—the voice of the aggrieved may never be heard. The valuator is judge in his own cause; and there are many, who, for sake of their own consistency, and to prevent similar annoyances, would adhere to their valuation, even with a latent conviction of its error.

Now, in all such cases, the agent occupies a false position. If the valuator were a stranger, the agent could hear just complaints of tenants, and give them redress. And many cases occur, in which the interference of an agent with a valuation would be an act of justice to the tenant.

If, on the contrary, an agent were disposed to interpret his obligation to his employer in a more liberal spirit—if, seeing the poverty and struggles of the tenants, he were inclined to bear upon them with a gentle hand, and that the result of his labours was generally satisfactory to the tenants—he runs a serious risk of being accused of pandering to popularity, and of sacrificing the interests of his employer for a good name to himself.

It is not less objectionable to make a man valuator who is a mere farmer, and has not enjoyed opportunities of a liberal education, to fit him for the proper performance of his duties; such a person, being identified and associated only with one class, would be likely to lean to the wishes of the people, to the prejudice of the interests of his employer; or, if he were disposed to do what was fair, would be quite incapable, from his imperfect knowledge, of doing it in a proper manner; his utmost attainments would not qualify him to do more than attach an average acreable value to each farm, no matter how many varieties of soil it might contain; and should he be resident on the property of which he is valuator, he is necessarily more liable to influences of favour or malice, than a stranger would be who was professionally educated for the office.

The office of valuator, therefore, to be accredited by public opinion, should be held only by competent persons, who made it their profession; whose character, education, and position would stamp their decisions with weight; who would be above receiving bias from landlord or tenant; but who, as under the sanction of an oath, would do what was right—and only that—between man and man.

II.—OF THE QUALIFICATIONS OF A VALUATOR.

A competent knowledge of practical and scientific agriculture—of land-surveying, geology, and chemistry—is essential to constitute a thoroughly qualified valuator.

A knowledge of farming is indispensable. It discovers the advantages, fitness, capabilities, inconveniences, and defects of the soil. It detects those errors in practice, which occasionally exhibit bad crops on good land, and points out the true cause which gives an aspect of luxuriance to an apparently inferior soil. If an injudicious system of cropping prevail in a certain district, and deteriorate the apparent value of the lands to a greater degree than the natural qualities of the soil would seem to justify—or if, on the other hand, superior management and abundant capital impart, to certain farms, a degree of fertility greater than the adjoining lands of the same quality possess—it enables the valuator to discriminate in these difficult cases, and furnishes him with data to arrive at a sound judgment, and neither to depreciate the one, nor overrate the other.

Some acquaintance with land-surveying is likewise indispensable. The man who sets out to value land without this, is reduced to the miserable expedient of averaging the whole acreable contents of the farm, without data on which to calculate how many acres are in any one class of the various qualities it may contain. It is impossible, therefore, to repose confidence in such a valuator, because he has no sure grounds on which he can rest his own opinions. The valuator who understands surveying is enabled to define accurately, upon his map, the natural demarcations between the varieties of soil met with in the land he views, and to calculate their areas exactly on his map.

A knowledge of the general principles of geology is also extremely desirable. The mountain masses of a district reveal the constituents of the soil that covers the plain, and before he enters upon it, the geologist has already formed some idea of its character and value; where he sees dark blocks of trap-rock overhanging a limestone formation, he expects to find the soil where their débris commingle characterized by its fertility. A power of estimating the general character of a district from its leading features, is of the greatest utility in establishing local standards of value.

Chemistry, so far as it relates to the examination and analysis of soils is also important. The quality of land depends on its mineral composition—the language by which it is described is founded upon the same. Its colour, its texture, its solidity, its weight, reveal to one practised in chemical manipulations, what are the true value and capabilities of a soil. Guided by this light, the skilful valuator perceives which of the components of the soil is deficient or in excess, and he is able to ascertain, with greater accuracy, how much the real value of the soil should be affected thereby.

Of the nature and utility of these general qualifications, we shall now speak a little more in detail.

III.—OF PRACTICAL AND SCIENTIFIC AGRICULTURE.

As land valuation is the art which determines the amount that should be paid as rent for the use and occupation of land, it is obvious that a knowledge of the capabilities of the soil to produce certain crops is essentially necessary.

Some soils are very feeble—in a limited succession of years, their produce is poor and of little value, scarcely remunerating the husbandman for his seed and labour. Others, within the same period, yield in the greatest abundance. Between these extremes there are many varieties and gradations, and it is possible to form a tolerable estimate of their value, by considering what kinds of crops and what number could be grown upon them within a certain limit.

It has been long known to agriculturists, that the same crops cannot be successfully grown on the same soil in successive years, without restoring to the soil, by manure, an equivalent for its waste and deterioration by those crops. But if different crops are sown in alternate years, the soil is not deteriorated to the same degree, and in a given number of years, a much greater amount of valuable produce can be obtained from the same land than by any other method.

All grain crops are known to be exhausting, but green crops, such as potatoes, turnips, grass, &c., are fertilizing. By alternating these therefore—and allowing a fertilizing crop to succeed an exhausting one, the land is kept in the best state; until, at the end of a certain period, it becomes necessary again to renew its vigour by a fresh application of manure.

The period when this new application of manure is considered necessary by the agriculturist, is the hinge on which all rotations depend. It is not that particular crops are varied in a certain succession during a certain number of years, that constitutes a scientific rotation, *but the number and kinds of crops that are grown between the periods of manuring land.*

During eighteen years, the following series of crops might be pursued with success:—

1. Potatoes.
2. Wheat.
3. Clover.
4. Grass.
5. Ditto.
6. Oats.
7. Turnips.
8. Barley.
9. Rye-grass for cutting.
10. Grass.
11. Ditto.
12. Oats.
13. Beans.
14. Wheat.
15. Flax.
16. Clover.
17. Grass.
18. Oats.

It would not, however, be correct to call this an eighteen years' rotation, for if it be attentively examined, it will be perceived that it is only a modified sexennial rotation; that at the end of each period of six years, the land is manured, viz.—1st, for potatoes; 2nd, for turnips; 3rd, for beans; and that though the individual crops be altered, yet one uniform system is pursued in each period, and grain crops and green crops regularly alternated within each interval. Inadvertence to this point has introduced confusion into many works professedly on scientific agriculture. Rotations have been described and recommended as six year and eight year, which were in reality only a three or four year rotation doubled, or a modification of either.

A skilful farmer, in arranging the rotation he means to pursue, is influenced by various considerations, such as his contiguity to market, his ability to obtain manure, the facility of labour, &c. In places where there is a good market for green crops, and an abundant command of manure, some persons pursue—

A biennial, or two year rotation, viz.,—1st, green crops; 2nd, wheat.

This and the following rotation are not practicable, except on a very small scale, without an unlimited supply of manure, and the command of an adjacent market sufficient to absorb the supply of green crops. They may be considered a sort of transition between market gardening and field husbandry, and are only applicable to prime land.

High fertility could be maintained in—

A triennial, or three year rotation, viz.—1st, green crops; 2nd, wheat; 3rd, oats, barley, or beans.

On superior lands in many parts of the United Kingdom, great reliance is placed in—

A quadrennial, or four year rotation, viz.—1st, green crops; 2nd, wheat; 3rd, clover or beans; 4th, oats.

The following is very general on good lands, and preferred by many as being less laborious than a four year course, and at the same time preserving the farm in good condition, viz.—

A quinquennial, or five year rotation, viz.—1st, green crops; 2nd, wheat or oats; 3rd, clover; 4th, grass; 5th, oats.

A sexennial, or six year rotation, admits of great variety, and is extensively practised; a comparison of the results which it yields on different soils will clearly illustrate the immense difference between poor and rich lands in annual value.

On mountain lands recently reclaimed, the powers of the soil receive their first feeble development. After considerable cultivation, the more perfect commixture of the mineral constituents of the soil, its increasing depth from the labour it receives, and the stimulating effect of manure, render it capable of better returns. In a more advanced state, draining and trenching develop its resources to the greatest degree. Thus, in the progress of time, it passes from infancy to the maturity of its power, and the valuator, capable of discriminating its state, and the rotation for which it is calculated, is not likely to be deceived as to its worth.

The proportionate value of lands in these successive stages will appear, by comparing the produce usually realized during a sexennial rotation.

1. On mountain land, taken in for the first or second time, from a state of nature—very shallow, stony, and difficult to labour.

		£	*s.*	*d.*
1.	Potatoes, say 50 cwts., at 2*s.*, . . .	5	0	0
2.	Oats, ,, 7 ,, at 4*s.*, . . .	1	8	0
3, 4, 5, 6.	Grass, ,, worth, at 10*s.* per . .	2	0	0
		£8	8	0

2. On reclaimed land in its second stage—still very shallow and poor.

		£	*s.*	*d.*
1.	Potatoes, 60 cwts., at 2*s.* 6*d.*, . . .	7	10	0
2.	Oats, 10 ,, at 4*s.* 6*d.*, . . .	2	5	0
3. 4 and 5.	Pasture, do. } 3 acres, at 12*s.*, . . .	1	16	0
6.	Oats, 8 cwts. at 4*s.* 6*d.*, . . .	1	16	0
		£13	7	0

3. For land of moderate depth, tolerably free from stones, and capable of easy cultivation.

			£	*s.*	*d.*
1st Year,	Potatoes,	100 cwts. at 2*s.* 6*d.*, .	12	10	0
2nd ,,	Oats,	14 ,, at 5*s.*, . .	3	10	0
3rd ,,	Clover,	. . . . .	3	0	0
4th and 5th ,,	Pasture,	2 acres, at 20*s.*, . .	2	0	0
6th ,,	Oats,	12 cwts. at 5*s.*, . .	3	0	0
			£24	0	0

4. For a good friable loam on an improvable subsoil.

			£	*s.*	*d.*
1st Year,	Potatoes,	120 cwts., at 2*s.* 6*d.*,	15	0	0
2nd ,,	Wheat or Oats,	15 ,, at 6*s.*, .	4	10	0
3rd ,,	Clover,	1 acre, . .	3	0	0
4th ,,	Grass,	1 ,, . .	1	0	0
5th ,,	Oats,	14 cwts., at 5*s.*, .	3	10	0
6th ,,	Flax or Beans, say	. . .	10	0	0
			£37	0	0

			£	s.	d.
On No. 1,	The average gross produce on 6 acres, is, per acre,		1	8	0
,, No. 2,	do.	do.	2	4	6
,, No. 3,	do.	do.	4	0	0
,, No. 4,	do.	do.	6	3	4

The foregoing are not supposititious rotations. Within the circle of an hour's walk, in some of the maritime districts of the county of Antrim, where the line of coast is skirted by mountain scenery, each of them may be observed in actual practice. Such comparisons exemplify the immense difference between soils. They show that inferior lands are the dearest, whatever rent they are charged with; and they furnish the valuator with certain data to guide him in his valuations. He should not, however, trust wholly to his theoretic knowledge of alternate husbandry in these calculations, but inquire diligently, and ascertain from intelligent farmers, in every district where he labours, what is their actual practice. By this means he will be made sensible of local peculiarities in the soil, climate, situation, and markets, of which every skilful agriculturist would gladly avail himself, to modify his preconceived notions of the best rotations.

IV.—MODE OF COMPUTING THE CONTENTS OF LAND.

The superficial contents of land, in the British isles, are always expressed in acres, roods, and perches—each acre containing 4 roods, and each rood 40 perches.

In measuring land, the principal instrument used is a chain of 100 links—4 perches long. One square chain contains 10,000 links, or 16 perches; and 10 square chains, containing 100,000 links, or 160 perches, are equal to 1 acre.

In field practice, the length of lines is expressed in chains and links. A line 18 perches long, would be marked by a surveyor, as 4·50—*i.e.*, 4 chains and 50 links, and the calculations are all made in the same terms. Thus, suppose a field to be an exact square of 4 chains and 50 links on each side, then, by multiplying 450 on 450, the total amount is 202,500 square links.

To bring this quantity to acres, it will be requisite to divide it by 100,000, this being the number of square links in 1 acre. This operation is speedily effected by simply cutting off five figures on the right hand. Those that are left indicate the acres. By cutting five figures on the right hand side off 202,500, 2 is left, which shows that there are 2 acres. The five figures cut off are then multiplied; first, by 4, to show the roods, as ·02500 × 4 = 10,000. With this proceed, as before, to cut off the five right hand figures; but as there are only five altogether, therefore there are no roods. It is now multiplied by 40 to show the perches, as 10,000 × 40 =400,000, and by cutting off five figures, here the remainder is 4—*i.e.*, 4 perches. Therefore the total contents of a field whose sides measured 4·50 respectively, are 2A. 0R. 4P. or two acres, and four perches.

As it is, however, unfortunately, of too frequent occurrence to meet with fields, which are not square, but sometimes extremely irregular in their outline, it is necessary to understand how all shapes and figures can be accurately measured.

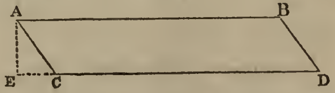
For small surveys, it is a good way to sketch on a piece of paper, a figure resembling the ground to be surveyed, and then to write the dimensions as they are found on the corresponding part of the plan. These can be afterwards accurately laid down according to some suitable scale.

In surveying with a chain two persons are required; the foremost, or leader, is provided with ten arrows, one of which he sticks in the ground, when he comes to the end of the chain, and goes on; when the follower reaches the arrow thus left, he lifts it, and the leader being then another chain length further off, sticks in another arrow, and so on. The arrows in the hand of the follower show the number of chains measured, and the residue of the ground, if it be less than a full chain, is expressed in links.

When there are no natural marks to guide the surveyor in the direction of the ground to be surveyed, station poles should be set up for guides.

The following directions will enable an inexperienced surveyor to ascertain the contents of most figures:—

1. To find the area of a parallelogram ABDC:—



Multiply its length A B by its perpendicular height A E.

Example—Required the contents of a field, whose opposite sides are parallel; the length of its base being 10·36, and its perpendicular height 5·40.

10·36
5·40

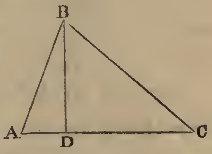
41440
5180

5·59440
4

2·37760
40

A. R. P.
15·10400 Ans. 5 2 15

2. To find the area of a triangle A B C:—



Multiply the base A C by the perpendicular B D, and take half the product; or multiply the base by half the perpendicular.

Example—Required the contents of a triangular field, whose base is 12·56, and its perpendicular height 8·50.

12·56
4·25 half the perpendicular.

6280
2512
5024

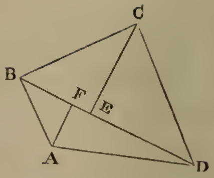
5·33800
4

1·35200
40

A. R. P.
14·08000 Ans. 5 1 14

3. To find the area of any quadrilateral figure, or figure of four sides:—

Multiply the length of its diagonal B D by half the sum of the perpendiculars A F and C E drawn to it from the opposite angles A and C.



Example—Required the contents of a field, whose diagonal is 6·36; and the perpendiculars to it from the opposite angles, 1·50, and 4·90.

6·36
3·20 half the sum of the perpendiculars.
12720
1908
2·03520
4
14080
40
A. R. P.
5·63200 Ans. 2 0 5

4. To find the area of a farm of many sides:

Divide it into quadrilateral figures and triangles, and measure these separately; then add all together.

5. To survey a field with crooked hedges:

Measure straight lines adjacent to the hedges, and from these lines measure such offsets to the hedges as will suffice to compute the actual space between the straight lines and the hedges.

2.—OF THE VARIOUS KINDS OF MEASURE.

Though all our surveys of land are expressed in acres, roods, and perches, yet these terms are often used to denote very unequal quantities according to the measure used.

There are three measures in ordinary use, viz., Statute or Imperial measure, Cunningham or Scotch measure, and Irish or Plantation measure.

The Statute perch is	5½ yards long.		
The Cunningham perch is	6¼	,,	,,
The Irish perch is	7	,,	,,

One acre Irish measure is equal to 1A. 2R. 19P. Statute,
and to 1A. 1R. 0P. Cunningham.

If one acre Statute measure were worth	£1	0	0
One Cunningham acre of the same land would be worth .	1	5	10
One Irish acre ,, ,, would be worth .	1	12	5

The Ordnance Survey of Ireland is all computed in Statute measure, and the law of the land recognises this only, unless some other be specially mentioned.

3.—RULES FOR CONVERTING THE SEVERAL MEASURES INTO OTHER MEASURES.

1. To bring Irish measure into Statute, multiply by 196 and divide by 121.

Example—In 12A. 3R. 21P. Irish, how much Statute measure.

```
        12   3 21
         4
        ——
        51
         40
       ————
       2061
        196
      —————
      12366
     18549
     2061
     ——————        P.
121) 403956    3338·4 (20   3 18   4
     363       320      ——————————
     ———       ————
      409  160) 138
      363    40)120
      ———       ————
       465       18
       363
       ————
       1026
        968
        ————
         580
         484
         ———
```

By referring to Table 1, the same result is obtained, viz.:—

	A.	R.	P.	Y.
12 acres, Irish, are	19	1	30	0
3 roods, do., are	1	0	34	4
21 perches, do., are	0	0	34	0
	20	3	18	4

2. To bring Statute measure into Irish, multiply by 121 and divide by 196.

3. To bring Statute acres into Cunningham, multiply by 484 and divide by 625.

4. To bring Cunningham measure into Statute, multiply by 625 and divide by 484.

5. To bring Irish measure into Cunningham, multiply by 784 and divide by 625.

6. To bring Cunningham measure into Irish, multiply by 625 and divide by 784.

4.—REDUCED TABLE OF THE MINOR PARTS (AND EQUIVALENTS) OF A STATUTE ACRE.

Square inches.	Square link.	Square feet.	Square yard.	Perch.	Square chain.	Rood.	Acre.
62·7264	1						
144	2·2956	1					
1296	20·6611	9	1				
39204	625	272·25	30·25	1			
627264	10000	4356	484	16	1		
1568160	25000	10890	1210	40	2·5	1	
6272640	100000	43560	4840	160	10	4	1

Six hundred and forty acres, one square mile.

V.—ON GEOLOGY.

The connexion between land valuation and geology is intimate. It is the subjacent rock, or subsoil, that gives character to the upper stratum. The surface soil is ordinarily composed of the materials that lie beneath, mixed with organic matter that has accumulated for ages, from decayed vegetable life and the remains of animals. On the nature of the soil the kind of crops which it is capable of supporting depends. The mineralogical character of a district determines, generally, its agricultural capabilities, which, under equal circumstances, are likely to be pretty similar wherever the same structure of rocks is known to exist. To a valuator engaged in extensive surveys, a good geological map, comprising an area not too extensive, would, on this account, be of the utmost service; if upon a large scale, and accompanied by sections, by studying the memoirs relating to it, in connexion with those observations which he will have been enabled to make, he will readily acquire a knowledge of the great leading characteristics of the country, of the value of which he will soon be sensible.

The lines of junction where dissimilar rocks unite and crop out together, exhibit a soil which is likely to be marked by more fertility than other contiguous lands, not similarly circumstanced. The greater the number of mineral substances a soil contains, it is generally the better. The incombustible remains of plants show how various are the ingredients which vegetable growth extracts from the soil.

An observer should, however, be prepared to notice many deviations from the general rule, that the character of the soil is determined by the nature of the subjacent formation. When a district is geologically sterile, occasional splendid exceptions are noticed, and rich alluvial soil may be found, of great depth and fertility: this is probably the bed of some ancient river, or a basin filled by the precious deposit of waters that have long ceased to flow.

Rocks are divided into two great classes—stratified and unstratified. The former lie in beds, or strata, one above the other; the latter exhibit no such appearance of alternate layers, but appear in large masses of uniform texture, without any regular stratification. Those primitive rocks sometimes attain a great elevation, and are frequently characterized by their barrenness. The secondary rocks, on the other hand, are more extensively distributed over the country; and some of them, as the sandstone and limestone formations, are distinguished by their fertility. Limestone may be considered the great material selected by the Divine Architect to construct Ireland. It occurs in every county except Wicklow. It is the prevailing formation in the central counties, from Dublin to Galway; appears in snowy cliffs along the maritime coasts of Antrim, as the dark-coloured calp of county Dublin, and furnishes marbles in Kilkenny, Armagh, Galway, Carlow, &c., in every variety of shade and beauty.

VI.—OF CHEMISTRY.

Chemistry analyzes and explains the true nature and constitution of soils. It reduces mineral and organic matter to their primitive elements, and shows the relation subsisting between them.

The elementary bodies into which plants are capable of being resolved, are sixteen in number; of these the soil constitutes twelve, and water and air the remainder.

The materials constituted by the soil are of four kinds—earths, alkalies, acids, and metals.

The earths are lime, alumina, silica, and magnesia. The three first form, in various proportions, the principal ingredients of all our cultivated soils. Magnesia is of rare occurrence. When lime prevails in a soil, it is denominated calcareous; when alumina abounds, it is called a clay soil; and when silica is the principal constituent, it is sandy or gravelly, according as the material is fine or coarse.

The alkalies are potash, soda, and ammonia. These are detected by their effects on colours, acids, and oils, on which they exercise a peculiar and striking influence.

The acids are sulphuric and phosphoric. The latter, in combination with lime, forms the material of the bone of animals.

The metals are iron and manganese, in the form of oxides.

To the above we may add chlorine, the gas which is so disagreeably perceived by its smell in bleaching salts.

From water and air are derived the gases, oxygen, hydrogen, nitrogen, and carbonic acid. These are the great constituents of organic life. They constitute from eighty-five to ninety-nine per cent. of the structure of plants.

Besides the elementary substances above mentioned, there exists in every soil, in a greater or less degree, a quantity of decomposed vegetable matter called humus, which, when in any considerable quantity, imparts a dark colour to the earth, and is always a principal cause of its fertility.

To ascertain, accurately, the proportions in which these materials exist in a soil could scarcely be effected, except by one well skilled in the delicate labours of minute analysis; but there are processes within the reach of an accurate observer, by which the grosser constituents can be ascertained, and which would richly repay the trouble.

1st. To ascertain the quantity of organic matter in a soil:—

Dry a sample of the earth in an oven or pot, placing it on paper, and taking care that the paper is not burned; then weigh and burn it effectually, until the dark colour, which the decomposed matter communicates to the soil, has disappeared; after this weigh it again, and the difference of weight will indicate the quantity of humus which the soil contained.

2nd. To ascertain the quantity of saline matter:—

Take a given quantity, say 1 lb. weight, of dried earth, and pour upon it three half pints of boiling rain-water; stir and agitate the whole, and allow it to settle; then pour off the water in which the salts will be dissolved, and boil it until the whole be evaporated, when a few grains of solid matter will remain, consisting of mixed saline substances, which, being soluble in water, are communicated in a liquid state as food to plants.

3rd. To ascertain the quantity of silica and alumina:—

Pour on a sample of dried earth a quantity of rain-water, and agitate it well; then pour off the muddy liquid into a separate vessel, and repeat the operation until the water is no longer muddied by its contact with the earth: thes muddy waters should all be put together and allowed to settle; the deposit which they leave will show the amount of clay in the soil; the earth which was washed contains only sand; both these proportions should again be dried, and weighed separately.

4th. To ascertain the quantity of lime:—

Take a portion of dried earth from which the organic matter has been burned away; then add to it a mixture of muriatic acid and water, stirring it well until it ceases to effervesce, and after a few hours strain off the liquid, and dry and weigh the soil again; the loss will indicate the proportion of calcareous matter it contained.

PART THIRD.

OF SOILS AND SUBSOILS.

I.—THE CLASSIFICATION OF SOILS.

It has been already shown that soils were composed of various materials, of which the principal were silica, alumina, and lime.

Silica, the most abundant of the incombustible materials of soils, exists in the form of sand or gravel, more or less pure; sometimes, also, as flint stones or slaty fragments.

Alumina is the basis of clay, that which is so called being a compound of about four parts of alumina, and six of sand. When water is put upon a portion of earth and agitated, it is clay which muddies the water, and is, for some time, held in solution by it, while the sand subsides to the bottom.

Lime sometimes is visibly present in soils, existing as a fine earth, or white gravel, or shells; or it may exist in considerable quantity, though not detected by the eye; but it is easily perceived by the effervescence it makes, if some vitriol or dilute muriatic acid be poured upon a portion of the soil.

Soils are characterized from these their principal constituents, thus:—If silica prevail, they are siliceous; if clay prevail, they are argillaceous or clayey; if lime prevail, they are calcareous; if vegetable matter prevail, they are peaty.

In valuation practice, these distinctions should be so clear and apparent, that the eye alone might be able to discriminate. But in our very best soils this is not always possible, and the term loam has been used to designate soils in which it is difficult to say which mineral characteristic predominates: the admixture of sand and clay with lime and organic matter being intimate, and in such proportions, that no one has any striking predominance over the other.

Practice has introduced also a further distinction of pasture or grass lands, which constitute the bulk of all our mountains, and soils not adapted for husbandry, and arable land; the latter comprising all varieties of soil under tillage.

II.—OF VARIETIES IN THE CLASSES OF SOILS.

The classification of soils, according to their constituent elements, will require in practice some subdivision, as each class of soils contains several varieties, and great diversity in value.

1. Siliceous soils may be divided into—1, loamy; 2, sandy; 3, gravelly; 4, slaty; 5, stony.

2. Argillaceous soils may be divided into—1, alluvial; 2, friable clay; 3, stiff clay.

3. Calcareous soils may be divided into—1, loamy; 2, marly; 3, gravelly; 4, stony.

4. Peaty soils may be divided into—1, bog-land; 2, moor; 3, bog.

III.—OF SILICEOUS SOILS.

It has been already observed, that silica is the most abundant element in the composition of soils. The disintegration of all rocks will furnish the elements of a siliceous soil, but some rocks yield richer sands than others. Limestone, freestone, and the trappean rocks generally afford materials for the most luxuriant soils. Granite, mica slate, and clay slate are usually inferior to the former.

The varieties of siliceous soils are—1, loamy; 2, sandy; 3, gravelly; 4, slaty; 5, stony.

1. *Siliceous loams.*—These are among the most fertile of all known soils. It is a characteristic of loams to have the materials of which they are composed so nicely adjusted, that the predominance of any one part over the others is not so strongly marked as in inferior soils. They

HALLIDIE LIBRARY
OF THE

generally abound in organic matter, and in the saline constituents of prime soils. Hence they are usually dark, rich, deep, and friable. Where the siliceous matter prevails, grain crops are not given to lodge or go so much to straw as on clayey loams of finer tilth, and the labours of the husbandman can be carried on with more success and certainty in a variable climate.

2. *Sandy soils.*—These, at the best, are never of great worth. They are too dry and loose in their texture for producing superior grain crops, except in wet seasons. Where they are rich in organic matter, they produce green crops well, and are easily laboured. They are, however, of little value, except to be laid down for permanent pasture, the herbage they produce being sweet and wholesome.

3. *Gravelly soils.*—These vary, like the foregoing, from hungry and uncertain soils, to others that are highly prized by farmers. Where there is a sufficient admixture of clay to bind and consolidate the gravel, and render it firm and retentive of water, they are alike good for the production of green crops and our most valued cereals.

4. *Slaty soils.*—Soils from the débris of slate rocks and interspersed with fragments not yet decomposed, are not naturally rich, but are capable, under judicious management, of great improvement, and may generally be depended upon. Flax is found to succeed upon such lands, when it is not grown more frequently than once in eight or ten years on the same fields.

5. *Stony soils.*—These vary much in character and material, being composed, in some places, as in spots along the coast of the county Antrim, of round flints about the size of an egg; in other places, of stones two or three pounds' weight, and difficult to work. Their appearance is often deceptive, and fine crops of wheat are grown where an inexperienced observer would have thought the land extremely barren.

IV.—CALCAREOUS SOILS.

Any intelligent observer, who attentively examines a geological map of Ireland, will perceive that the limestone formation is not only much more largely developed than any other of the rocks from which our soils are derived, but that it nearly equals all the others collectively. Yet it does not follow, that because limestone forms the platform of so extended a surface, all the soils reposing upon it are calcareous. It is well known to agriculturists, that lime, when artificially applied to a soil, has a tendency to sink rapidly to the subsoil. Those soils, therefore, are alone to be termed calcareous, into which the carbonate of lime enters as a necessary constituent.

The varieties of calcareous soils are—1, marly; 2, gravelly; 3, stony.

1. *Marly.*—Rich marls frequently occur throughout Ireland, containing from 50 to 91 parts in 100 of carbonate of lime. They are sometimes white and sometimes of a blue colour, and of great value, when properly applied, as a manure; when this becomes intermixed with the upper stratum of earth, the soil is called marly. The limestone which they contain is so finely comminuted and mixed with other earths, that it keeps the soil open and free, and furnishes an inexhaustible supply for growing crops.

2. *Gravelly.*—The soil, in many places throughout the limestone formation, is composed of limestone gravel, more or less fine, well suited for the growth of oats and green crops. Sometimes calcareous sand prevails, and shells, in maritime situations.

3. *Stony.*—On the declivities of mountains limestone, or loose coarse soil, is sometimes found, in which large occasional protuberances of the rock occur. To all such lands the term stony is to be applied.

V.—PEATY SOILS.

In those soils denominated peaty, there exist, in greater or less quantity, vegetable matters in an undecomposed state; which, unlike the rich organic matter contained in cultivated soils, furnishes no food to plants, except to mosses and the coarser grasses. They increase in value as the peat diminishes and the earths are intermixed.

They are divided into—1, bog land; 2, moor; 3, turf-bog.

1. *Bog land.*—Under this term are comprehended those tracts of turf-bog, which have been cut out and exhausted of all that would furnish material for the fire. In such cases, the waste or superfluous bogstuff is levelled and intermixed with the subsoil, by digging and burning, and the ordinary farm labour ensues.

2. *Moor.*—Tracts of natural grazing, where the peaty matter and clay are intermixed, are called moory. They are sometimes productive of excellent grass for mountain cattle.

3. *Turf-bog.*—Where the quantity of peaty matter is deep, apparently unmixed, and fit to be cut for fuel, it is called turf-bog. Its value depends—1st, on its contiguity to arable land; 2nd, on its scarcity in the neighbourhood; 3rd, on its texture: that which is light and spongy being little good for any purpose; where it is black, close, and heavy, it makes excellent firing.

Large mountain or lowland tracts of turf-bog, covered with heath or tufts of coarse grass saturated with water, which renders them quaking and unsafe for cattle, are almost valueless.

VI.—OF SUBSOILS.

Much of the value of a soil is dependent on the nature of the subsoil. The best soils reposing on a rocky or sterile floor are apt to deteriorate; while inferior soils, with an improvable subsoil, increase in value with good cultivation.

In describing, for valuation purposes, the soil itself, it is desirable, if possible, to characterize it by those great elements which are chiefly regarded by agriculturists as affecting the condition of arable land. The terms clay lands, siliceous, calcareous, and peaty, generalize the particulars most important to be known by practical men in reference to soils.

But as these elementary substances exert unequal influences, according as they are derived from genial or barren rocks, it is evident, that if we could be certain of the original source from which our soils were derived, we should be able to form a more correct idea of the value and capabilities of the land.

Now in relation to the arable portion of the soil, this would be a work of difficulty and uncertainty. The cultivation of ages mixes foreign ingredients in the soil, and the gradual increase of decomposed organic matter alters the original combination of elementary substances, so as to make their recognition difficult.

But the subsoil is not subject to the same influences. It remains in many cases in a state of nature, and lying on the rock from which it sprung, furnishes a surer index of the exact formation and value of the soil.

A further consideration, which demonstrates the importance of examining the nature of subsoils, is derived from the efforts now being made by our best practical agriculturists to deepen the subsoil, by bringing it gradually up, or turning its capabilities to account by trenching and subsoiling.

It would be important, therefore, where it is practicable, in describing the subsoils of lands of which an accurate examination is necessary, to state the formation to which they belong, or of which they are composed.

The great systems of rocks developed in Ireland are—granite in the lofty mountains of Donegal, Down, and Wicklow; mica slate in Donegal, Derry, and Tyrone; clay slate in Down, Louth, Wicklow, and Wexford; sandstone in Longford, Roscommon, Cork, Tipperary, and

Limerick; trap in Antrim; and limestone throughout the whole centre of the kingdom, from Dublin Bay to the Atlantic.

If the subsoil admits of a clear and distinct identification with its subjacent rock, it might be described as follows:—

1. Granitic sand or clay—subsoil.
2. Mica slate or clay—ditto.
3. Decomposed red or white sandstone—ditto.
4. Clay slate, argillaceous, or slaty—ditto.
5. Calcareous sand or clay—ditto.

The colours should also be remarked—as, blue, red, yellow, whitish, &c. The above comprehend merely the principal formations; where other varieties occur, the geologist will be at no difficulty in giving to the subsoils resting upon them, their proper appellation, as quartzose, shale, chalk, greenstone, porphyritic, alluvial, &c.

VII.—LOCAL CIRCUMSTANCES AFFECTING THE VALUE OF LAND.

The principal local circumstances which exercise an influence on the value of land, are—

1. Its distance from a market for produce.
2. Its position with respect to roads, public and private.
3. Inequalities of superficies.
4. Its climate and elevation.
5. Its rates and taxes.
6. Exposure.

1. Distance from a Market.—Lands situate not more than ten nor less than five miles from a good market for its produce, may be considered in a medium state as to distance.

Within a circle of five miles around a good market town, its contiguity is a favourable circumstance, and enhances its value.

At four miles distance, its value is increased to the extent of about 6*d.* in the pound.

At three miles distance to about 1*s.* in the pound.

At two miles distance to about 2*s.* 6*d.* in the pound.

Land situate more than ten miles distant from a good market town, is diminished in value to the extent of 6*d.* in the pound; in many cases for every mile beyond ten.

2. Position as to Roads.—Land having easy access to a convenient road may be considered in ordinary circumstances for valuation purposes.

If the roads be hilly, so that a common fair load cannot be taken to market, it diminishes the value of the land, in proportion to the difficulty, from 6*d.* to 1*s.* in the pound.

If land be insulated, and have no convenient road, the inconvenience should be estimated specially.

It is a common practice for landlords to have roads measured into the adjoining lands. This is a bad system, because it falls unequally upon landholders. It would be better in every instance to show the roads in a separate item, and to value the net contents of the farm, suitable for farming purposes.

3. Inequalities of Superficies.—Where land is level, or with so easy and gentle an inclination that the operations of the plough can be performed without difficulty, it is in the circumstances comprehended in the scale of prices hereafter given.

Some fields are too steep to be laboured by horses, or are laboured by them with great difficulty. If they required to be laboured by the spade, they would need special consideration by the valuator. The increased expense incurred by steepness may entitle them to a deduction varying from 2*s.* to 8*s.* in the acre.

4. Climate and Elevation.—Land situate in a high undrained district, on some of the primitive formations, or near a tract of mountain or irreclaimable moor, suffers from the effects of a wet climate. Clay lands cannot be ploughed with advantage except in dry weather, and spring frequently presents so little of this, that it is a work of great nicety to command resources for farm labour in an ungenial climate. In the interior of a mountain range, crops are late and seldom so hearty as in low lands, for

damp foggy weather prevails and the winter is long. On lands so situated, a deduction of from 2*s.* 6*d.* to 5*s.* in the pound may be made according to circumstances.

5. Rates and Taxes.—The public charges to which lands are subject in Ireland are—

1. *The County Cess*—A tax levied twice a-year by the Grand Jury of each county, and payable before the lent and summer assizes, or every spring and summer. The proceeds of this assessment go to liquidate the cost of making new roads, repairing old ones, and supporting gaols, dispensaries, lunatic asylums, &c. This tax is levied indiscriminately upon all occupiers of houses and land, and no tenant is entitled to any deduction on account of it, except under special agreement. It varies very much according to the amount of work sanctioned by the Grand Jury, ranging from 25 per cent. to 10 per cent. of the annual value of the property.

2. *The Poor Rate*—Which is laid on by the Board of Guardians for each Poor Law Union. Every union is divided into electoral divisions, and each division pays a rate proportionate to the number of paupers which it has sent to the workhouse. This rate also varies very much; from an amount, in some unions, equal to much more than the annual value of the property, down to 4*d.* in the pound. One half of this rate is payable by the landlords.

6. Exposure.—Some lands are very much exposed in comparison with others to the influence of prevailing winds, which not unfrequently blow during harvest, and occasion heavy loss and great anxiety to the farmer. A deduction might be made, under such circumstances, of from 2*s.* 6*d.* to 5*s.* in the pound.

PART FOURTH.

CLASSIFICATION OF SOILS IN REFERENCE TO THEIR VALUE.

I.—ON THE PRIMARY DIVISION OF LAND FOR VALUATION PURPOSES.

All lands are divisible for the purpose of valuation into four great orders, viz. :—

1. Arable land.
2. Grass land.
3. Timber land.
4. Bog land.

Arable land comprises all that is cultivated or better adapted for cultivation than grazing.

Grass land is meant to include all pasturage and meadow, from the finest fattening parks of our most favoured districts, to the exposed and irreclaimable wastes of mountain herbage.

Timber land includes all forests and young plantations.

Bog land, though strictly embracing every description of soil in which peat is a principal constituent, is confined here, for valuation purposes, to those varieties only which are cut for turf.

II.—OF THE CLASSIFICATION OF ARABLE SOILS.

Arable lands are divided into the following classes, for the purposes of valuation, viz. :—

1. Extra soils, comprehending town parks and all lands possessing, either from their nature or situation, peculiar advantages which enhance their value.
2. Prime soils, comprising all superior lands capable of growing wheat and the other cereals to perfection.
3. Medium soils, comprising lands of moderate depth and productiveness.

4. Inferior soils, comprehending the poorer argillaceous or shallow siliceous soils.

SECT. 1. EXTRA SOILS.—The class of extra soils comprehends town parks and all lands possessing, either from their nature or situation, peculiar advantages which enhance their value.

The principal things which enhance the value of soils, so as to take them out of the ordinary rules adapted for valuation purposes, are—

1. Contiguity to cities or market towns.
2. Superior condition or nature.
3. Great local competition.

1. *Contiguity to Cities.*—Land in the neighbourhood of cities becomes valuable beyond its agricultural capabilities. It is sought after by wealthy residents for building purposes, for recreation, for health, for scenery, and its exact value depends upon circumstances wholly beyond the range of those rules by which ordinary land is regulated. In the neighbourhood of Belfast, £100 per acre is not uncommon for land to be occupied as sites for factories, and having within them a suitable supply of water for such purposes. All such cases must be left entirely to private arrangement between the contracting parties.

Market towns give an extra value to lands in proportion to the size of the town and the distance from it.

In the vicinity of large market towns, where there is a constant market and good competition for all kinds of agricultural produce, the value of land is at least double what it would be in ordinary situations.

This increased value begins to diminish at the distance of half a mile.

At the distance of one mile from a large market town, the increased value of land is about half as much more as it is worth in an ordinary situation.

At the distance of a mile and a half, the increased value may amount to about one-fourth of its ordinary value.

But the real value of lands in the extra class cannot be reduced to any general scale, for it is affected by other circumstances, which require to be attentively considered on the spot, such as—

2. *Superior Condition.*—It frequently happens that lands are so situated as to command an unlimited supply of rich manure, and become so luxuriant by long occupation, that they are capable of extraordinary results. Whether used for the purposes of grazing or cultivation, their productiveness is very great, and might fairly justify the imposition of double the ordinary rate for lands of similar composition; particularly as such lands are more easily laboured and require less seed than other soils.

Some alluvial soils are of this description, and many tracts of rich loamy earth, on the margin of our loughs, impregnated with salts, and composed mainly of rotten sea-weed, possess qualities which raise them out of competition with ordinary soils.

3. *Great Local Competition.*—Local competition is principally operative in the vicinity of towns, where small quantities of land are sought for by the inhabitants, less for the sake of profit than for accommodation. Some lands are particularly desirable from various circumstances, such as accessibility, convenience, shelter, &c. Where local usages would not interfere, the best mode of ascertaining the real value of all lands so situated, would be to take proposals for them.

In the valuation books, extra soils may be marked thus by the valuator:—

E. A. 1. Where the value is double an ordinary rate.

E. A. 2. Where the value is increased from 75 to 50 per cent.

E. A. 3. Where the value is increased from 40 to 25 per cent.

Sect. 2. Prime Arable Soils.—In this class are included all first-rate soils, not amounting to extra, capable of growing wheat and the other cereals to perfection, such as—

P. A. 1. Rich alluvial soil.

Deep loamy soil.

Dark friable clayey soil, well drained and easily laboured.

√ All in the best condition for labour, free from stones and superfluous water; in good heart, requiring no outlay whatever, except for the crop. To be marked in fields as in margin.

P. A. 2. Similar in quality to the above, but not quite in so perfect condition.

P. A. 3. Evidently prime land as to its natural qualities, but deteriorated by insufficient drainage, by the presence of occasional boulder stones impeding labour, by injudicious or imperfect fences, or by local circumstances of an unfavourable character.

Sect. 3. Medium Arable Soils.—This class comprehends light siliceous soils of easy culture, better adapted for green crops and oats than wheat; also argillaceous soils, productive of wheat but difficult to labour; as—

M. A. 1. Loamy soils, not deep.

Siliceous soils, with a fine proportion of decomposed organic matter.

Clayey soils of medium quality.

Sheltered pasturage of average good quality.

Kindly soils, not deep, but productive and easily laboured.

The above tolerably dry, well fenced, and free from stones.

M. A. 2. Soils similar to the above, but not so well drained, fenced, or situated, occasional rocks or large boulders impeding the labour, fences imperfect or injudicious; clay soils, retentive; also moory soils, reclaimed, with good subsoil.

M. A. 3. Medium land, shallow, steep, exposed; or badly drained, fenced, or cleared. Bog land with inferior subsoil.

Sect. 4. Inferior Arable Soils.—This class embraces land more elevated than the preceding classes, not adapted for the growth of wheat, nor producing good crops of any grain.

I. A. 1. Cold heavy clay soils, hard to labour and unproductive.
Shallow soils, imperfectly mixed, deficient in some of the principal ingredients.
Soils requiring rest in grass during half the period of a suitable rotation.
I. A. 2. Poor gravelly soils, greedy of manure; very tenacious clays, rocky, or with bad subsoil.
I. A. 3. Sterile, shallow, hard to labour, scarcely worth cultivation.

III.—ON THE VALUATION CLASSES OF GRASS LAND.

The order of grass land comprehends all lands growing permanent grass, either for cutting or pasture. Lands sown with grass seed, or allowed to clothe themselves with natural verdure, on an arable farm where alternate husbandry is practised, are not included, as they belong to, and must be valued as arable land. But wherever, either naturally or artificially, the land is found under grass in a permanent state, it must be described and classified accordingly.

This description of land occupies a vast extent of the surface of Ireland, and exhibits necessarily a wide range of value, from the wild morasses of the almost inaccessible mountain heights, to the fine fattening plains of our richest limestone districts. Its varieties depend not only on the soil and subsoil, but very much on the condition of the land as to drainage, and much also on its situation and elevation. For valuation purposes, it may be subdivided into the following classes, viz.:—

1. Extra Class.—Comprehending meadows naturally or artificially irrigated, or pasture so situated as to possess rare advantages.

2. Prime.—Comprehending good meadow and grazing lands, capable of fattening oxen, &c.
3. Medium.—Comprehending coarse meadow and good feeding lands, &c.
4. Inferior.—Comprehending good natural pasture, heavy argillaceous soils, &c.
5. Bad.—Comprehending remote and elevated mountain pasture, and coarse wet bog land.

SECT. 1. EXTRA GRASS.

E. G. 1. Meadows naturally or artificially irrigated, yielding two cuttings of grass, one for green feeding and the other for hay.

E. G. 2. Meadows yielding one luxuriant after-math for pasture after a superior hay crop.
Fattening pastures of known and peculiar fertility.

E. G. 3. Either of the above, when natural qualities are greatly enhanced by very favourable circumstances as to situation.

Generally the circumstances which have been previously recited as giving extra value to arable lands, are of equal force as to grass lands, and should be well considered in reference to this class.

SECT. 2. PRIME GRASS.

P. G. 1. Good meadow; fattening lands, abundant in the most nutritious herbage, well watered and sheltered, level, and accessible by good roads, and in every respect in the very best condition. Superior for the dairy, yielding abundance of the best butter and cheese.

P. G. 2. Fattening lands, not so well fenced, or watered, or situated.

P. G. 3. Fattening lands imperfectly drained, fences irregular and occupying much ground, with a useless under-growth of saplings or briers.

All lands in this class are capable of producing prime beef and mutton, and can be depended upon by the farmer with greater certainty than arable lands, as being less affected by the vicissitudes of season. They have not generally deteriorated in value of late years, except when occupied for dairy purposes. There are no lands, however, which require in their valuation the exercise of a sounder judgment, combined with local experience and observation, than these; as they are known frequently to possess extraordinary qualities even on a comparatively shallow soil, and to be less valuable where there was greater depth and more seeming energy in the soil.

SECT. 3. MEDIUM GRASS.

M. G. 1. Excellent for feeding young cattle, but not to be depended upon for producing good beef or mutton; well fenced, watered, and sheltered, accessible by good roads; coarse meadow.

M. G. 2. Feeding lands, not so luxuriant as the former.

M. G. 3. Feeding lands, badly drained, or fenced, with some waste, grass indifferent.

There are many tracts of rich natural pasture which might be placed in either of these qualities of medium grass.

SECT. 4. INFERIOR GRASS.

The three foregoing classes, though more profitable in pasture, have all been cultivated at some period, and are capable, if need be, of cultivation; but this class embraces land which is still in a state of nature, and has never been subjected to tillage—

I. G. 1. Heavy clay land, badly drained, with short and scanty herbage soon eaten down; natural pasture close, but not luxuriant; capable of being cultivated, convenient, and sheltered.

I. G. 2. Natural pasture, elevated, not so convenient, spouty, reclaimable, but at considerable expense; stony, shrubby, wet.

I. G. 3. Steeper, not convenient, elevated, exposed. Good mountain pasture—if not too elevated or exposed—dry and accessible, might rank in this class according to its quality.

SECT. 5. BAD GRASS.

B. G. 1. Remote, high, unsheltered, rocky, with coarse innutritious herbage; level morasses of bog; covered with heath, or tufts of long coarse grass; wet, unsheltered, rocky.

B. G. 2. Rugged mountain tops; rank wet bog, deep and quaking, remote, cold and dreary.

B. G. 3. Sterile, high, almost inaccessible, or bare of verdure.

IV.—ON TIMBER LANDS.

All land occupied in growing timber is to be estimated according to its agricultural or grazing capabilities.

If the land be naturally good arable, capable, in a free state, of easy cultivation, and eligibly situated for farming purposes, it should be comprehended in the classification already given for arable land, according to its quality.

If it be poor, shallow, stiff, uneven, or rocky, exposed, elevated, and altogether unfavourably situated or badly adapted for husbandry, it should be comprehended in the classification given for grass land, according to its natural capabilities for pasture, which will be generally indicated by the adjoining lands.

All ground under old forest or young plantations should be charged in the valuator's return to the owner of the timber. If it belong to the proprietor of the estate, as is usual, he should be charged with the rent and taxes; for timber may be considered a kind of crop requiring an extended period to come to maturity.

When in such cases, land under timber constitutes part of the measurement of a farm, it should be deducted from the tenant's rent, and entered as a separate holding in the occupation of the proprietor.

If the thinnings of a young plantation, or liberty of cutting for his own use, whatever timber he might require, would be considered equivalent to the rent at which the timber land is charged, and that the farmer would be satisfied to pay for it on these conditions—this is rather a matter for arrangement between the tenant and the forester of the estate, than to be settled by a valuator.

If, on the other hand, the occupying tenant have planted the timber land of his farm himself, or otherwise become entitled to it, he is of course chargeable with the full rent to which it should be subject.

V.—BOG—TURF-BOG.

Bog land, where reclaimable and made fit to bear crops, is classed as arable; where occupied as pasture, it is to be classed among grass lands.

Turf-bog is that description of peaty soil which is cut and dried into turf, and extensively used for fuel throughout the country.

There is great difference in its intrinsic value. That which is dark coloured, hard and weighty when dry, is best; on the other hand, it diminishes in value as it becomes light in colour and texture.

In places where it is scarce, three crops are sometimes cut and dried on the same spot in a season; but ordinarily only one crop is cut and dried on the same ground in a year.

Prime turf-bog, when occupied only in such portion as is necessary for the wants of the occupying tenant, is as valuable to him as prime arable land; but if he be obliged to occupy more than he requires, the residue, not being used to profit, is only worth the grass it is capable of producing, which seldom ranks higher than B. G. 1.

Turf-bog, occupied as such, may be classified, like arable land, into—

1. Extra Bog.

In this class should be placed those usually small patches of good bog which occur in the centre of a district where fuel is very scarce and valuable. In such cases it is parcelled out in very small portions, and set at high prices, which from its great importance are easily realized.

2. Prime Bog.

P. B.—Dark coloured—hard when dry—close in the fibre—either cut with a spade or baked with the hand—ashes red and weighty.

3. Medium Bog.

M. B. Lighter in colour and gravity than P. B., but withal tolerably good; burning freely, but diffusing less heat.

4. Inferior Bog.

I. B. Very light in colour, texture, and in the ashes —diffusing little heat.

Turf-bog, light and spongy in its texture, with white ashes, is worth nothing; but the same bog, as it gets deeper, by being frequently cut over, may become good, for turf-bog always improves in quality as it gets deeper.

VI.—DATA ASSUMED IN THE FORMATION OF THE FOLLOWING SCALE.

1. That the land to which it applies is situated in circumstances of an ordinary character, neither conspicuous for its advantages nor inconvenience.

2. That the compulsory rates levied upon it for county cess, poor-rates, or other charge, do not exceed in the whole 2*s.* 6*d.* in the pound on the valuation, or 12½ per cent. per annum.

3. That the prices of agricultural produce will average at nearly the following rates:—

			s.	*d.*
Wheat, at 7*s.* 6*d.*	per cwt.	of 112 lbs.	7	6
Oats, at 4*s.* 10*d.*	,,	,,	4	10
Barley, at 5*s.* 6*d.*	,,	,,	5	6
Flax, at 49*s.*	,,	,,	49	0
Butter, at 65*s.* 4*d.*	,,	,,	65	4
Beef, at 35*s.* 6*d.*	,,	,,	35	6
Mutton, at 41*s.*	,,	,,	41	0
Pork, at 32*s.*	,,	,,	32	0

or those given in Part First, chap. xii.

4. That agents' fees are not to be added to the valuation.

5. That the cost of day labour does not exceed 7*s.* per week without provisions.

Note.—The following scales are all graduated to serve for perches as well as for acres.

The potato crop, being still of doubtful and uncertain growth, its average prices cannot safely be included in the standard.

Scale of Prices for the various classes of Arable Land, per Statute Acre, described in Chapter II.

Extra Class.

E. A. 1, E. A. 2, E. A. 3.—It is impossible to affix any prices in this class on which dependence could be placed. The amount of artificial value which land acquires under certain circumstances varies with every locality, and must be ascertained on the spot.

Prime Arable.

P. A. 1.	2*d.* per perch,	or £1	6	8	per acre.
P. A. 2.	1¾*d.* ,,	or 1	3	4	,,
P. A. 3.	1½*d.* ,,	or 1	0	0	,,

Medium Arable.

M. A. 1.	1¼*d.* per perch,	or £0	16	8	per acre.
M. A. 2.	1*d.* ,,	or 0	13	4	,,
M. A. 3.	¾*d.* ,,	or 0	10	0	,,

Inferior Arable.

I. A. 1.	⅝*d.* per perch,	or £0	8	4	per acre.
I. A. 2.	½*d.* ,,	or 0	6	8	,,
I. A. 3.	¼*d.* ,,	or 0	3	4	,,

Scale of Prices for the various classes of Grass Land, per Statute Acre.

Extra Grass.

E. G. 1, E. G. 2, E. G. 3.—The scale of prices for meadow or pasture, the value of which has been increased by peculiar circumstances, must be fixed on the spot.

PRIME GRASS.

P. G. 1.	2¼*d.*	per perch,	or	£1	10	0	per acre.
P. G. 2.	2*d.*	,,	or	1	6	8	,,
P. G. 3.	1¾*d.*	,,	or	1	3	4	,,

MEDIUM GRASS.

M. G. 1.	1½*d.*	per perch,	or	£1	0	0	per acre.
M. G. 2.	1¼*d.*	,,	or	0	16	8	,,
M. G. 3.	1*d.*	,,	or	0	13	4	,,

INFERIOR GRASS.

I. G. 1.	¾*d.*	per perch,	or	£0	10	0	per acre.
I. G. 2.	½*d.*	,,	or	0	6	8	,,
I. G. 3.	¼*d.*	,,	or	0	3	4	,,

BAD GRASS.

B G. 1.	¼*d.*	per perch,	or	£0	3	4	per acre.
B. G. 2.	⅛*d.*	,,	or	0	1	8	,,
B. G. 3.	$\frac{1}{16}$*d.*	,,	or	0	0	10	,,

Valuation Scale for Bog, per Statute Acre.

1. EXTRA BOG.

E. B.—The high value which turf-bog brings in many places, depends entirely on the scarcity of fuel in the neighbourhood. It ranges from £5 per statute acre downwards, and must be determined on the spot.

2. PRIME BOG.

P. B.—In ordinary circumstances, per statute acre, £1, or 1½*d.* per perch.

3. MEDIUM BOG.

M. B.—In ordinary circumstances, per statute acre, 13*s.* 4*d.*, or 1*d.* per perch.

4. INFERIOR BOG.

I. B.—In ordinary circumstances, per statute acre, 3*s.* 4*d.*, or ¼*d.* per perch.

In many districts of Ireland it is a customary and commendable practice to allot to each farm, free of rent, a portion of turf-bog sufficient for the adequate supply of each farm. The foregoing scale is not, of course, meant to apply to such cases, but to those in which it is scarce, and where prices have therefore been laid upon it.

Valuation Scale for Arable Land in Cunningham Measure.

In districts where the Cunningham or Scotch measure is most used and understood, and where it is considered desirable to have the valuations made in the same, the following scale may be used, which approximates to that already given for the statute acre, in the nearest equivalents on the perch scale.

1. EXTRA ARABLE.

E. A. 1, E. A. 2, E. A. 3.—The scale for these to be constructed when the special circumstances enhancing the ordinary value have been ascertained.

2. PRIME ARABLE.—All land worth above 1½*d.* per perch.

P. A. 1,	worth	£1	15	0	per acre,	or 2⅝*d.*	per perch.
P. A. 2,	,,	1	10	0	,,	or 2¼*d.*	,,
P. A. 3,	,,	1	5	0	,,	or 1⅞*d.*	,,

3. MEDIUM ARABLE.—All land worth above 1*d.*, and not exceeding 1½*d.* per perch.

M. A. 1,	worth	£1	0	0	per acre	or 1½*d.*	per perch.
M. A. 2,	,,	0	16	8	,,	or 1¼*d.*	,,
M. A. 3,	,,	0	13	4	,,	or 1*d.*	,,

4. INFERIOR ARABLE.—All land not worth 1*d.* per perch.

I. A. 1,	worth	£0	10	0	per acre,	or ¾*d.*	per perch.
I. A. 2,	,,	0	6	8	,,	or ½*d.*	,,
I. A. 3,	,,	0	3	4	,,	or ¼*d.*	,,

Valuation Scale for Grass Land in Cunningham Measure.

In districts where the Cunningham or Scotch measure is most used and understood, and where it is considered desirable to have the valuations made in the same, the following scale may be used, which approximates to that already given for the statute acre, in the nearest equivalents on the perch scale.

Extra Grass.

E. G. 1, E. G. 2, E. G. 3.—The scale for these to be constructed when the special circumstances enhancing the ordinary value have been ascertained.

Prime Grass.—All land worth above 2*d.* per perch.

P. G. 1,	worth $2\frac{7}{8}d.$ per perch,	or	£1	18	4	per acre.
P. G. 2,	,, $2\frac{1}{2}d.$,,	or	1	13	4	,,
P. G. 3,	,, $2\frac{1}{4}d.$,,	or	1	10	0	,,

Medium Grass.

M. G. 1,	worth $1\frac{7}{8}d.$ per perch,	or	£1	5	0	per acre.
M. G. 2,	,, $1\frac{5}{8}d.$,,	or	1	1	8	,,
M. G. 3,	,, $1\frac{1}{4}d.$,,	or	0	16	8	,,

Inferior Grass.

I. G. 1,	worth 1*d.* per perch,	or	£0	13	4	per acre.
I. G. 2,	,, $\frac{5}{8}d.$,,	or	0	8	4	,,
I. G. 3,	,, $\frac{3}{8}d.$,,	or	0	5	0	,,

Bad Grass.

B. G. 1,	worth $\frac{5}{16}d.$ per perch,	or	£0	4	2	per acre.
B. G. 2,	,, $\frac{3}{16}d.$,,	or	0	2	6	,,
B. G. 3,	,, $\frac{1}{16}d.$,,	or	0	0	10	,,

Valuation Scale for Arable Land in Irish Measure.

For those who would prefer to classify and make their valuations by the Irish acre, the following scale affords a near approximation to the scale already given for the statute acre.

1. Extra Arable.

E. A. 1, E. A. 2, E. A. 3.—The scale for these to be constructed when the special circumstances enhancing the ordinary value have been ascertained.

2. Prime Arable.—All lands worth above 2*d.* per perch, viz. :—

P. A. 1,	worth	£2	3	4	per acre,	or $3\frac{1}{4}d.$ per perch.
P. A. 2,	,,	1	16	8	,,	or $2\frac{3}{4}d.$,,
P. A. 3,	,,	1	10	0	,,	or $2\frac{1}{4}d.$,,

3. MEDIUM ARABLE.—All lands worth above 1*d.* and not above 2*d.* per perch, viz.:—

M. A. 1,	worth £1	6	8	per acre,	or 2*d.*	per perch.
M. A. 2,	,, 1	0	0	,,	or 1½*d.*	,,
M. A. 3,	,, 0	15	0	,,	or 1⅛*d.*	,,

4. INFERIOR ARABLE.—Lands not exceeding 1*d.* per perch in value, viz. :—

I. A. 1,	worth £0	13	4	per acre,	or 1*d.*	per perch.
I. A. 2,	,, 0	10	0	,,	or ¾*d.*	,,
I. A. 3,	,, 0	6	8	,,	or ½*d.*	,,

Valuation Scale for Grass Land in Irish Measure.

For those who would prefer to classify and make their valuations by the Irish acre, the following scale affords an approximation to the scale already given for the statute acre in the nearest equivalents on the perch scale.

EXTRA GRASS.

E. G. 1, E. G. 2, E. G. 3.—The scale for these to be constructed when the special circumstances enhancing the ordinary value have been ascertained.

PRIME GRASS.

P. G. 1,	worth 3⅝*d.*	per perch,	or £2	8	4	per acre.
P. G. 2,	,, 3¼*d.*	,,	or 2	3	4	,,
P. G. 3,	,, 2¾*d.*	,,	or 1	16	8	,,

MEDIUM GRASS.

M. G. 1,	worth 2⅜*d.*	per perch,	or £1	11	8	per acre.
M. G. 2,	,, 2*d.*	,,	or 1	6	8	,,
M. G. 3,	,, 1⅝*d.*	,,	or 1	1	8	,,

INFERIOR GRASS.

I. G. 1,	worth 1¼*d.*	per perch,	or £0	16	8	per acre.
I. G. 2,	,, ¾*d.*	,,	or 0	10	0	,,
I. G. 3,	,, ⅜*d.*	,,	or 0	5	0	,,

BAD GRASS.

B. G. 1,	worth ⅜*d.*	per perch,	or £0	5	0	per acre.
B. G. 2,	,, $\frac{3}{16}$*d.*	,,	or 0	2	6	,,
B. G. 3,	,, ⅛*d.*	,,	or 0	1	8	,,
B. G. 4,	,, $\frac{1}{16}$*d.*	,,	or 0	0	10	,,

PART FIFTH.

ON THE PRACTICE OF LAND VALUATION.

I.—THE PREPARATION OF VALUATION BOOKS.

It is customary for the person who is desirous of having his lands valued, to hand the valuator a list of the farms and tenements upon it, and maps of the premises.

From these data the valuator prepares his field book—in the annexed form—of which he should always have a sufficient supply in stock.

The names of the tenants should appear in the field book, if possible, in the natural order as they appear on the map. This would, in most cases, invert the order of the landlord's list, but it would prove the most satisfactory reference. If no maps have been supplied, of course the order in the furnished list must be followed.

Care should be taken that the series of numbers on the maps and field books exactly correspond.

If the valuation be made for a proprietor with a view to regulate the rent to be paid by the tenants, the annexed form will furnish ample details. If it be made simply with a view to ascertain the fair value of an estate, for the purpose of sale of rental, the finished report may be condensed so as to exhibit simply—

1. The tenants' names.
2. The extent of their holdings.
3. The total amount of value.
4. Any necessary observations.

Attentive examination of the soil and subsoil, which is made by causing the earth to be dug in various places.

The points to which attention should be directed are—

1. The mineral character of the soil, as whether it be siliceous, clayey, calcareous, or peaty.

FORM OF VALUATION BOOK.

Townland of ——

No. on Map.	Names of Tenants.	Area of Holding.	Description of Soil.			Quality.	Value per Acre.	Amount.		Observations.
		A. R. P		A. R. P.			£ s. d.	£ s. d.	Total. £ s. d.	
1	James Flynn,	20 0 0	A.	6 0 0	Rich clay loam,	P. A. 1	1 3 4	5 0 0	19 0 0	
			B.	14 0 0	Calcareous gravel,	M. G. 1	1 0 0	14 0 0		
2	John Burke,	56 2 20	C.	20 2 0	Poor tenacious clay,	I. A. 2	0 6 8	6 16 8	35 19 7	In great need of draining.
			D.	10 0 20	Irrigated meadow,	P. G. 3	1 3 4	11 16 3		Injured by large boulder stones.
			E.	26 0 0	Dark friable clay,	M. A. 2	0 13 4	17 6 8		
3	Patrick Quill,	2 0 0			Good loam,	P. A. 3	1 0 0		2 0 0	
		78 2 20							£56 19 7	

NOTE.—The first three columns are filled up before going to the ground.
The divisional letter, description of soil, and quality marks, are affixed on the ground.
The other columns are filled up in the house.
The quality letters are explained in pages 57, 58, &c.

II.—FORM OF VALUATION BOOK GIVEN IN THE DIGEST OF EVIDENCE BEFORE THE LAND COMMISSION.

Some persons are partial to ample details in the valuation book. In the digest of evidence taken by the Land Commissioners, p. 703, it is observed—" The satisfactory valuation of land does not consist in merely fixing the yearly price which a tenant is to pay for each acre of his farm: it depends upon being able to prove, by minute details, to both parties interested, that that price is the right one under all the circumstances of the case, and that in fixing it their respective rights have been strictly protected. There could then be no dispute about the final result or rent. The discussion, if any there be, must take place upon some of the items leading to that result, each item being perfectly within the power of distinct calculation of any well qualified professional man; whilst no man can prove the correctness of the result except by considering the details that lead to it."

In accordance with the above observations, there is given the following—" Form of a Farm Report, with a detailed valuation and general calculation of the capabilities of an estate in the county of Donegal, now in progress, with a view to establish an equitable system between landlord and tenants, with reference to rent and future permanent improvements of the land and buildings, &c., and as a guide in arranging the farms proportionably to the population they are capable of supporting, executed by the agricultural teachers of Loughash and Cloghañ Schools, as a practical method of instructing their pupils. Price of oats, 6*d.* per stone; potatoes, 1*s.* per 8 stones; hay, 30*s.*, and Swedish turnips, 13*s.* per ton; labourers' wages, 10*d.* per day, without board.

Farm Number.	Number of lot in Moore's Survey.	Area of 'ot in statute measure.		Soil.		Subsoil, nature of.	Aspect.	Elevation in feet above the sea.	Distance from market, in miles.	Present rotation of crops.	Permanent Improvements required.					Value of average annual gross produce per acre that could be derived.		
		Arable.	Pasture and Waste.	Nature of	Depth of						Nature of	Cost of, per acre statute,	Cost of, per lot,	Rate of return, per cent., upon Investment.	No. of years in which investment would be repaid by profit from the land, with interest.	By present ignorant occupiers.	By intelligent occupiers.	By intelligent occupiers, if all the requisite permanent improvements were effected.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		A. R. P.			In.							£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
1	Part of lot 1,	4 2 37	–	Slaty Clay Loam,	14	Slate Rock,	West.	250	9	Potatoes and Oats alternately	Spade subsoiling, fencing, and thorough draining,	4 10 0	21 5 9¼	20 0 0	6	3 14 0	4 13 0	6 0 0
	Part of lot 2,	3 2 21	–	do.	24	do.	do.	252	9	do.	do.	4 10 0	16 6 0	17 15 0	6½	3 17 0	4 16 0	6 0 0
	Farm Buildings	–	–	–	–	–	–	–	–	–	New House and Offices,	2 0 0	16 10 0	13 10 0	–	–	–	–
	Total,	8 1 18	–	–	–	–				–	–	–	54 1 9¼		12½	–	–	–

Cost of cultivation per statute acre, including all charges.																										
To present ignorant occupiers.									To intelligent occupiers.									To intelligent occupiers effecting and preserving all the requisite improvements required.								
Superintendence and skill.	Labour.	Interest on capital.	Repairs.	Insurance and contingencies.	Seed.	Taxes.	Rent.	TOTAL.	Superintendence and skill.	Labour.	Interest on capital.	Repairs.	Insurance and contingencies.	Seed.	Taxes.	Rent.	TOTAL.	Superintendence and skill.	Labour.	Interest on capital.	Repairs.	Insurance and contingencies.	Seed.	Taxes.	Rent and interest on investment.	TOTAL.
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s. d.	s.	s.	s.	s.	s. d.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.
4	38	3	1	1	13	2	12	74	10	50	3 0	1	1	10	2	16 0	93	20	52	4	1	1	10	2	30	120
4	40	3	1	1	13	2	13	77	10	51	3 6	1	1	10	2	17 6	96	20	52	4	1	1	10	2	30	120
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

[continued.

Cost of cultivation of Lot, including all charges.																	
To present ignorant occupiers.									To intelligent occupiers.								
For superintendence and skill.	For labour.	For interest on capital.	For repairs.	For insurance and contingencies.	For seed.	For taxes.	For rent.	Total cost.	For superintendence and skill.	For labour.	For interest on capital.	For repairs.	For insurance and contingencies.	For seed.	For taxes.	For rent.	Total cost.
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.
0 18 11	8 19 10	0 14 2	4 6½	4 6½	3 1 5	9 1	2 16 9	17 9 3	2 7 3	11 16 8	0 14 2	4 6½	4 6½	2 7 3½	9 1	3 15 8	21 14 8
0 14 6½	7 5 3	0 10 10	3 7½	3 7½	2 7 1½	7 3½	2 7 4½	14 1 6	1 16 3½	9 5 1	0 12 8	3 7½	3 7½	1 16 3	7 3	3 3 6	17 4 8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 13 5½	16 5 1	1 5 0	8 2	8 2	5 8 6½	16 4½	5 4 1½	31 10 9	4 3 6½	21 1 9	1 6 10	8 2	8 2	4 3 6½	16 4	6 19 2	38 19 4

Amount available for support of farmer's family, £19 11*s.* 8½*d.*

Amount available for support of farmer's family, £27 0*s.* 3½*d.*

Cost of cultivation of Lot, including all charges.									Smallest number of statute acres that would support a family of five individuals, and enable them to pay rent without curtailing their requisite subsistence, &c., supposing them entirely dependent on farm.			Proper course of rotation.
To intelligent occupiers, effecting and preserving all the permanent improvements required.												
For superintendence and skill.	For labour.	For interest on capital.	For repairs.	For insurance and contingencies.	For seed.	For taxes.	For rent, and interest on investment.	Total cost.	By present ignorant occupiers.	By intelligent occupiers.	By intelligent occupiers, if all the requisite, &c.	
65	66	67	68	69	70	71	72	73	74	75	76	77
£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.				
4 14 7½	12 6 0	0 18 9½	4 6½	4 6½	2 7 3½	9 1	7 1 11	28 6 9	10½	8	6½	5 course rotation.
3 12 7½	9 12 6	0 14 6½	3 7½	3 7½	1 16 3	7 3	5 8 11	21 19 4	10	8	6¼	5 course rotation.
-	-	-	-	-	-	-	-	-	-	-	-	
8 7 3	21 18 6	1 13 4	8 2	8 2	4 3 6½	16 4	12 10 10	50 6 1				

Amount available for support of farmer's family, £32 7*s.* 3*d.*

The gentleman by whom the foregoing report seems to have been planned, states in reference to it—(Digest, p. 743.) "This document supplies all details by which both parties interested can at once satisfy themselves as to the fairness of the contract they are about to enter upon, and without it they cannot have a distinct idea of how far the contract might be respectively judicious even at the time it was made, much less after years may have passed over, and considerable changes may have taken place in the state of the farm itself, as well as in the market prices of the produce. It will afford to both parties a distinct point of reference, and definite means of settling all future differences or questions as to improvement in whatever state of progress the farm may at any time be. Its advantages go still further: it affords the means of ascertaining the capabilities of any given extent of land, as to the population to which it can supply the means of comfortable subsistence, and what would be the minimum quantity sufficient for a family under different circumstances."

However ingenious this document may be, and however useful to the agricultural teachers of Loughash and Cloghan, as "a practical method of instructing their pupils," it is never very likely to advance beyond this point, or be used by professional valuators. It contains a valuation report on two small farms, containing in all eight acres, and it gives respecting these—

77 columns of details, embracing subjects for the agriculturist, the engineer, the architect, and the political economist.
92 headings or titles to the details.
180 calculations, some of them very complicated.
126 rows of figures.
64 statements open to argument, and some to serious objection.

The practical valuator is not likely to enter upon so complicated a series of details. His object is simple—to view the land as it is, and report upon its quality and value, adding such general observations as may seem important. If the proprietor think fit to send the agriculturist to carry out any suggestions made, his recommendations and calculations will be most satisfactory in a separate form.

III.—FIELD DUTIES.

The first duty of the valuator is to examine the lands to be viewed in connexion with the map of the same, so that he may be enabled to make those accurate observations on which future calculations depend.

In order to this, he should understand the scale on which the map is constructed, and if a doubt at any time arise as to the corresponding position on the map with that he occupies on the ground, it may, perhaps, be ascertained by slipping the number of perches indicated by the scale from some obvious position, to that which is doubtful.

If there be a marked difference in the quality of the soil, indicated by natural boundaries, not shown on the map, as where a rising ground or turf-bog separates arable land from a portion not capable of equal cultivation, the line of demarcation should be traced as accurately as possible on the map, and the subdivisions so made should be lettered on the spot, and entered in the field book.

To accomplish the subdivision, the valuator should take his stand at some point on the land which is distinctly observed upon the map, and so convenient to the line of change in the quality of the land, that it can be distinctly traced with the eye through the whole, or greater part of its length. From this point he must look to some object at the further end of the line, such as a tree, or house, or fence, likewise apparent on the map, and between the two he can draw such a line, either direct or otherwise, as appears to him most accurate. The calculation of the areas within these lines can be made in the house from the map, and entered in column No. 5.

The whole of a contiguous tract, as two or three townlands lying in one range, and similarly circumstanced, should be viewed before the valuator attach the price to any portion; for all the separate parts should bear a relative proportion to each other, and this will be best observed by affixing the prices at a time when all the circumstances of the property are fully known and considered together.

If the general position of the district be too elevated for the growth of wheat, or so mountainous as to attract an undue proportion of rain, or if it be remote from market, or inconveniently situated as to roads, it may be necessary, under these circumstances, to deduct from 5*s.* to 3*s.* 4*d.* in the pound from the scale of prices, regulating lands of the same quality in ordinary circumstances.

It frequently happens that changes have occurred in the lands and tenancies of the occupiers since the map was made. The valuator should accurately note these, and show matters as they really are. Subtenancies or cottier holdings need not, however, be noticed.

The quality marks should only be fixed to valuation areas, after an attentive examination of the soil and subsoil, which is made by causing the earth to be dug in various places.

The points to which attention should be directed are—

1. The mineral character of the soil; or, whether it be siliceous, clayey, calcareous, or peaty.

2. Its depth; *i. e.*, of the active soil, which, in medium lands, will average ten inches, in prime lands more, and in inferior is frequently less.

3. Its colour; which, except in some calcareous and peaty soils, is generally rich in proportion as it is dark, and *vice versâ.*

4. Its texture: whether it be loose, and without adequate firmness for the support of vigorous vegetable life; or tenacious, from excessive water, or an undue proportion of argillaceous matter; or friable, easy to labour, loamy, and rich in vegetable matter.

5. Its condition: whether exhausted from over cropping, or luxuriant from high farming.

The soil, examined in this way, furnishes what may be called internal evidence of its value; but there are also external marks bearing on the same subject which must not be overlooked, and to which reference is made in the succeeding chapter.

IV.—ON THE EXTERNAL INDICATIONS OF THE QUALITY OF LAND.

Besides a correct knowledge of the nature and composition of soils, as described in Part Third, a valuator should be familiar with the external indications of the value of land, which are elevation, superficies, drainage, subdivisions, herbage, and crops. The most of these are apparent to the intelligent observer at a glance, and impress him at once with a general conception of value, which it only requires the subsequent examination of the soil or subsoil to modify or confirm.

PRIME LANDS require that all these external indications should be favourable.

The elevation moderate, so as to suit for growing wheat.

The superficies—a plain, free from any inequalities that would render horse labour impracticable or severe.

The drainage, either natural or artificial, to be perfectly performed, exhibiting a dry surface, capable of labour in all seasons.

The subdivisions into fields not to be too great in number, nor made in a slovenly or faulty manner. If the internal fences of a farm be huge ramparts of earth on one side, with a deep wide ditch or fosse on the other, the ground which they unnecessarily occupy should be calculated, and deducted from the value of prime lands.

The herbage should be plentiful, and of good quality. It is sometimes very plentiful, but coarse and bad. Thick fine grass, of a dark colour, on dry land, is always good.

The crops growing on land will furnish good evidence of its capabilities, and, if these should be reaped, the stubble will show what they have been. The weak and needy stubble proves either exhaustion or incapability in the soil; while coarseness and strength indicate luxuriance.

MEDIUM LANDS:

Elevation.—The Ordnance maps furnish the means of ascertaining the general elevation of every district, and the valuator should inform himself upon the subject; but, as the effects of elevation upon the growth of crops is unequal, his purpose will be served by observing what crops are really grown at certain heights. If wheat cannot be successfully grown, no matter how excellent in other respects, land cannot rank as prime arable.

Superficies.—In like manner, a soil which, if level, would be prime, if it lie on the slope of a hill, or in a mountainous district, or if a considerable portion of its arable land be steep and difficult to labour, should be classed as medium. But, if a portion only of a farm be of this character, and the remainder level, the steep part should be separated from the level by a valuation line, and rated on its merits.

Drainage.—No clay or heavy lands can be considered prime, unless thorough drained.

Subdivisions.—The internal fences of a farm, if too numerous, badly formed, misplaced, or containing timber trees, or high untrimmed hedges, form so serious an impediment to labour, that the valuator may see reason to reduce prime lands to medium on their account. The considerations which should influence him in considering this subject are—

1st. The rotation which should be followed, if the land were judiciously cultivated.

2nd. The adaptation of the subdivisions of the farm to such a rotation.

If the quinquennial rotation were considered best adapted for the farm, and that it were divided into any number not a multiple of five—nor judiciously adapted to that system of farming—the practical management of the farm is rendered more difficult, and without some change on the fences the occupier is involved in a series of unequal exertions and irregular operations, requiring great skill and forethought. This remark, however, does not equally apply to grass lands, in which shelter is frequently an object, and the size and shape of the field immaterial.

Herbage is not of itself a sure criterion, but must be taken in connexion with the other external marks. On some medium lands the natural and artificial grasses are very fine, and on others miserably bad, particularly on clay soils injudiciously laboured.

Crops.—These, on medium lands, except in peculiar circumstances, will generally exhibit, both in quantity and quality, their inferiority to the growth of prime lands.

INFERIOR LAND.—The external marks of inferior land are so self-evident as to impress the most careless observer. Not only are its elevation, its drainage, its fences, its herbage, its crops, generally in part or in whole unfavourable, but the very aspect of the occupying tenants, and even of the cattle exhibits poverty.

V.—CHECKING THE VALUATION.

Every professional valuator should provide himself with some means to test the accuracy of his work.

If the work be all done by himself, he will avail himself of opportunities to ascertain the opinion of well-informed residents on such portions as they are most familiar with; and his inquiries should be directed rather with a view to elicit facts as to the known capabilities of the land than as to any local estimate of its value.

Concurring evidence of this kind, with regard to the productive powers of certain classes of soils, will fortify his individual judgment, and afford collateral proof of its correctness.

If the labour of valuation be intrusted to assistants, they should be sent separately to traverse the field of each other's labours, and make their individual and unconcerted reports to the principal. Should any discrepancies occur this should be rectified by the personal examination of the principal, who, by this means, makes the valuation his own, and can with confidence give the finished work the authority of his name.

Thus, then, the ordinary correct land valuation requires—

1. The minute examination of the land and its subdivisions into valuation areas by the first valuator, with his calculation of the quantity and description of the quality of each.

2. The re-examination of such of these as may be necessary by the check valuator, with his separate opinion of their value.

3. The verification of the correct rate by the personal inspection of the principal, after which the calculations of total value may be made, and the report completed.

PART SIXTH.

TABLE I.—For converting Irish or Plantation Measure into Statute Measure.

Irish.	Statute.			Irish.	Statute.			Irish.	Statute.		
Perches.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.
1	0	0	1·6	8	12	3	33·4	59	95	2	11·2
2	0	0	3·2	9	14	2	12·5	60	97	0	30·4
3	0	0	4·9	10	16	0	31·7	61	98	3	9·6
4	0	0	6·5	11	17	3	10·9	62	100	1	28·8
5	0	0	8·1	12	19	1	30	63	102	0	8
6	0	0	9·7	13	21	0	9·2	64	103	2	26·2
7	0	0	11·3	14	22	2	28·4	65	105	1	6·3
8	0	0	12·9	15	24	1	7·6	66	106	3	25·5
9	0	0	14·6	16	25	3	26·7	67	108	2	4·7
10	0	0	16·2	17	27	2	5·9	68	110	0	23·9
11	0	0	17·8	18	29	0	25·1	69	111	3	3
12	0	0	19·4	19	30	3	4·2	70	113	1	22·2
13	0	0	21	20	32	1	23·4	71	115	0	1·3
14	0	0	22·7	21	34	0	2·6	72	116	2	20·5
15	0	0	24·3	22	35	2	21·8	73	118	0	39·7
16	0	0	25·9	23	37	1	1	74	119	3	18·8
17	0	0	27·5	24	38	3	20·2	75	121	1	38
18	0	0	29·2	25	40	1	39·3	76	123	0	17·2
19	0	0	30·8	26	42	0	18·5	77	124	2	36·3
20	0	0	32·4	27	43	2	37·6	78	126	1	15·5
21	0	0	34	28	45	1	16·8	79	127	3	34·7
22	0	0	35·6	29	46	3	36	80	129	2	13·9
23	0	0	37·3	30	48	2	15·2	81	131	0	33·1
24	0	0	38·9	31	50	0	34·4	82	132	3	12·2
25	0	1	0·5	32	51	3	13·6	83	134	1	31·4
26	0	1	2·1	33	53	1	32·8	84	136	0	10·6
27	0	1	3·7	34	55	0	11·9	85	137	2	29·8
28	0	1	5·4	35	56	2	31·1	86	139	1	8·9
29	0	1	7	36	58	1	10·2	87	140	3	28·1
30	0	1	8·6	37	59	3	29·4	88	142	2	7·3
31	0	1	10·2	38	61	2	8·6	89	144	0	26·4
32	0	1	11·9	39	63	0	27·8	90	145	3	5·6
33	0	1	13·5	40	64	3	7	91	147	1	24·8
34	0	1	15·1	41	66	1	26·1	92	149	0	3·9
35	0	1	16·7	42	68	0	5·3	93	150	2	23·1
36	0	1	18·3	43	69	2	24·5	94	152	1	2·3
37	0	1	20	44	71	0	3·6	95	153	3	21·4
38	0	1	21·6	45	72	3	22·8	96	155	2	1·6
39	0	1	23·2	46	74	2	2	97	157	0	19·8
Roods.				47	76	0	21·2	98	158	2	38·9
1	0	1	24·8	48	77	3	0·3	99	160	1	18·1
2	0	3	9·6	49	79	1	19·5	100	161	3	37·3
3	1	0	34·4	50	80	3	38·7	200	323	3	34·7
Acres.				51	82	2	17·8	300	485	3	32
1	1	2	19·2	52	84	0	37	400	647	3	29·4
2	3	0	38·3	53	85	3	16·2	500	809	3	26·8
3	4	3	17·5	54	87	1	35·3	600	971	3	24·1
4	6	1	36·7	55	89	0	14·5	700	1,133	3	21·5
5	8	0	15·9	56	90	2	33·7	800	1,295	3	18·9
6	9	2	35	57	92	1	12·8	900	1,457	3	16·2
7	11	1	14·2	58	93	3	32	1,000	1,619	3	13·6

Table II.—For converting Cunningham Measure into Statute Measure.

Cun.	Statute.			Cun.	Statute.			Cun.	Statute.		
Perches.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.
1	0	0	1·3	6	7	2	39·7	58	74	3	23·5
2	0	0	2·6	7	9	0	6·3	59	76	0	30·1
3	0	0	3·9	8	10	1	12·9	60	77	1	36·7
4	0	0	5·1	9	11	2	19·5	61	78	3	3·3
5	0	0	6·4	10	12	3	26·1	62	80	0	9·9
6	0	0	7·7	11	14	0	32·7	63	81	1	16·5
7	0	0	9·0	12	15	1	39·3	64	82	2	23·1
8	0	0	10·3	13	16	3	5·9	65	83	3	29·7
9	0	0	11·6	14	18	0	12·6	66	85	0	36·4
10	0	0	12·9	15	19	1	19·2	67	86	2	3
11	0	0	14·2	16	20	2	25·8	68	87	3	9·6
12	0	0	15·5	17	21	3	32·4	69	89	0	16·2
13	0	0	16·8	18	23	0	39	70	90	1	22·2
14	0	0	18·1	19	24	2	5·6	71	91	2	29·4
15	0	0	19·4	20	25	3	12·2	72	92	3	36
16	0	0	20·7	21	27	0	18·8	73	94	1	2·6
17	0	0	21·9	22	28	1	25·4	74	95	2	9·3
18	0	0	23·2	23	29	2	32	75	96	3	15·9
19	0	0	24·5	24	30	3	38·7	76	98	0	22·5
20	0	0	25·8	25	32	1	5·3	77	99	1	29·1
21	0	0	27·1	26	33	2	11·9	78	100	2	35·7
22	0	0	28·4	27	34	3	18·5	79	102	0	2·3
23	0	0	29·7	28	36	0	25·1	80	103	1	8·9
24	0	0	31·0	29	37	1	31·7	81	104	2	15·5
25	0	0	32·3	30	38	2	38·3	82	105	3	22·1
26	0	0	33·6	31	40	0	4·9	83	107	0	28·7
27	0	0	34·9	32	41	1	11·6	84	108	1	35·4
28	0	0	36·1	33	42	2	18·2	85	109	3	2·0
29	0	0	37·4	34	43	3	24·8	86	111	0	8·6
30	0	0	38·7	35	45	0	31·4	87	112	1	15·2
31	0	1	0	36	46	1	38	88	113	2	21·8
32	0	1	1·3	37	47	3	4·6	89	114	3	28·4
33	0	1	2·6	38	49	0	11·2	90	116	0	35
34	0	1	3·9	39	50	1	17·8	91	117	2	1·6
35	0	1	5·2	40	51	2	24·5	92	118	3	8·2
36	0	1	6·5	41	52	3	31·1	93	120	0	14·9
37	0	1	7·8	42	54	0	37·7	94	121	1	21·5
38	0	1	9·1	43	55	2	4·3	95	122	2	28·1
39	0	1	10·4	44	56	3	10·9	96	123	3	34·7
				45	58	0	17·5	97	125	1	1·3
Roods.				46	59	1	24·1	98	126	2	7·9
1	0	1	11·6	47	60	2	30·7	99	127	3	14·5
2	0	2	23·3	48	61	3	37·3	100	129	0	21·1
3	0	3	34·9	49	63	1	4	200	258	1	2·3
				50	64	2	10·6	300	387	1	23·5
Acres.				51	65	3	17·2	400	516	2	4·6
				52	67	0	23·8	500	645	2	25·8
1	1	1	6·6	53	68	1	30·4	600	774	3	6·9
2	2	2	13·2	54	69	2	37	700	903	3	28·1
3	3	3	19·8	55	71	0	3·6	800	1,033	0	9·2
4	5	0	26·4	56	72	1	10·2	900	1,162	0	30·4
5	6	1	33	57	73	2	16·8	1,000	1,291	1	11·6

Table III.—For converting Statute Measure into Irish or Plantation Measure.

Stat.	Irish.			Stat.	Irish.			Stat.	Irish.		
Perches,	A.	R.	P. dec.	Acres.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.
1	0	0	0·6	6	3	2	32·6	58	35	3	9
2	0	0	1·2	7	4	1	11·4	59	36	1	27·8
3	0	0	1·8	8	4	3	30·2	60	37	0	6·5
4	0	0	2·5	9	5	2	9	61	37	2	25·3
5	0	0	3	10	6	0	27·7	62	38	1	4
6	0	0	3·7	11	6	3	6·5	63	38	3	22·8
7	0	0	4·3	12	7	1	25·3	64	39	2	1·6
8	0	0	4·9	13	8	0	4	65	40	0	20·4
9	0	0	5·5	14	8	2	22·8	66	40	2	39·1
10	0	0	6·1	15	9	1	1·6	67	41	1	17·9
11	0	0	6·8	16	9	3	20·3	68	41	3	36·7
12	0	0	7·4	17	10	1	39·1	69	42	2	15·5
13	0	0	8	18	11	0	17·9	70	43	0	34·3
14	0	0	8·6	19	11	2	36·7	71	43	3	13·1
15	0	0	9·3	20	12	1	15·5	72	44	1	31·9
16	0	0	9·9	21	12	3	34·3	73	45	0	10·6
17	0	0	10·5	22	13	2	13	74	45	2	29·4
18	0	0	11·1	23	14	0	31·8	75	46	1	8·2
19	0	0	11·7	24	14	3	10·6	76	46	3	26·9
20	0	0	12·3	25	15	1	29·4	77	47	2	5·7
21	0	0	12·9	26	16	0	8·1	78	48	0	24·5
22	0	0	13·6	27	16	2	26·9	79	48	3	3·3
23	0	0	14·2	28	17	1	5·7	80	49	1	22
24	0	0	14·8	29	17	3	24·5	81	50	0	0·8
25	0	0	15·4	30	18	2	3·2	82	50	2	19·5
26	0	0	16·1	31	19	0	22	83	51	0	38·3
27	0	0	16·6	32	19	3	0·8	84	51	3	17·1
28	0	0	17·3	33	20	1	19·6	85	52	1	35·9
29	0	0	17·9	34	20	3	38·4	86	53	0	14·7
30	0	0	18·5	35	21	2	17·2	87	53	2	33·4
31	0	0	19·1	36	22	0	35·9	88	54	1	12·2
32	0	0	19·7	37	22	3	14·7	89	54	3	31
33	0	0	20·4	38	23	1	33·5	90	55	2	9·8
34	0	0	21	39	24	0	12·3	91	56	0	28·5
35	0	0	21·6	40	24	2	31	92	56	3	7·3
36	0	0	22·2	41	25	1	9·7	93	57	1	26·1
37	0	0	22·8	42	25	2	28·5	94	58	0	4·9
38	0	0	23·4	43	26	2	7·3	95	58	2	23·6
39	0	0	24·1	44	27	0	26	96	59	1	2·4
				45	27	3	4·8	97	59	3	21·2
Roods.				46	28	1	23·5	98	60	2	0
1	0	0	24·7	47	29	0	2·3	99	61	0	18·8
2	0	1	9·4	48	29	2	21·1	100	61	2	37·5
3	0	1	34	49	30	0	39·9	200	123	1	35·1
				50	30	3	18·7	300	185	0	32·6
				51	31	1	37·5	400	246	3	30·2
Acres.				52	32	0	16·3	500	308	2	27·7
1	0	2	18·8	53	32	2	35·1	600	370	1	25·3
2	1	0	37·5	54	33	1	13·9	700	432	0	22·8
3	1	3	16·3	55	33	3	32·7	800	493	3	20·4
4	2	1	35·1	56	34	2	11·5	900	555	2	17·9
5	3	0	13·9	57	35	0	30·3	1,000	617	1	15·5

TABLE IV.—For converting Statute Measure into Cunningham Measure.

Stat.	Cunningham.			Stat.	Cunningham.			Stat.	Cunningham.		
Perches.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.	Acres.	A.	R.	P. dec.
1	0	0	0·8	6	4	2	23·4	58	44	3	26·4
2	0	0	1·5	7	5	1	27·3	59	45	2	30·3
3	0	0	2·3	8	6	0	31·2	60	46	1	34·2
4	0	0	3·1	9	6	3	35·1	61	47	0	38·1
5	0	0	3·9	10	7	2	39	62	48	0	2
6	0	0	4·6	11	8	2	2·9	63	48	3	5·9
7	0	0	5·4	12	9	1	6·8	64	49	2	9·9
8	0	0	6·2	13	10	0	10·7	65	50	1	13·8
9	0	0	6·9	14	10	3	14·6	66	51	0	17·7
10	0	0	7·7	15	11	2	18·5	67	51	3	21·6
11	0	0	8·5	16	12	1	22·4	68	52	2	25·5
12	0	0	9·3	17	13	0	26·4	69	53	1	29·4
13	0	0	10·1	18	13	3	30·3	70	54	0	33·3
14	0	0	10·8	19	14	2	34·2	71	54	3	37·2
15	0	0	11·6	20	15	1	38·1	72	55	3	1·1
16	0	0	12·4	21	16	1	2	73	56	2	5
17	0	0	13·2	22	17	0	5·9	74	57	1	8·9
18	0	0	13·9	23	17	3	9·8	75	58	0	12·8
19	0	0	14·7	24	18	2	13·7	76	58	3	16·7
20	0	0	15·5	25	19	1	17·6	77	59	2	20·6
21	0	0	16·3	26	20	0	21·5	78	60	1	24·5
22	0	0	17·0	27	20	3	25·4	79	61	0	28·4
23	0	0	17·8	28	21	2	29·3	80	61	3	32·3
24	0	0	18·6	29	22	1	33·2	81	62	2	36·2
25	0	0	19·4	30	23	0	37·1	82	63	2	0
26	0	0	20·1	31	24	0	1	83	64	1	4
27	0	9	20·9	32	24	3	4·9	84	65	0	7·9
28	0	0	21·7	33	25	2	8·8	85	65	3	11·8
29	0	0	22·5	34	26	1	12·7	86	66	2	15·7
30	0	0	23·2	35	27	0	16·6	87	67	1	19·6
31	0	0	24	36	27	3	20·5	88	68	0	23·5
32	0	0	24·8	37	28	2	24·4	89	68	3	27·4
33	0	0	25·6	38	29	1	28·3	90	69	2	31·4
34	0	0	26·3	39	30	0	32·3	91	70	1	35·3
35	0	0	27·1	40	30	3	36·2	92	71	0	39·2
36	0	0	27·9	41	31	3	0	93	72	0	3·1
37	0	0	28·6	42	32	2	4	94	72	2	7
38	0	0	29·4	43	33	1	7·9	95	73	2	10·9
39	0	0	30·2	44	34	0	11·8	96	74	1	14·8
				45	34	3	15·7	97	75	0	18·7
Roods.				46	35	2	19·6	98	75	3	22·6
1	0	0	31	47	36	1	23·5	99	76	2	26·5
2	0	1	21·9	48	37	0	27·4	100	77	1	30·4
3	0	2	12·9	49	37	3	31·3	200	154	3	20·8
				50	38	2	35·2	300	232	1	11·2
				51	39	1	39·1	400	309	3	1·6
Acres.				52	40	1	3	500	387	0	32
1	0	3	3·9	53	41	0	6·9	600	464	2	22·4
2	1	2	7·8	54	41	3	10·8	700	542	0	12·8
3	2	1	11·7	55	42	2	14·7	800	619	2	3·2
4	3	0	15·6	56	43	1	18·6	900	696	3	33·6
5	3	3	19·5	57	44	0	22·5	1,000	774	1	24

Table V.—Showing the relative Proportions of the Produce of an Irish and Statute Acre.

Per Irish Acre.			Equivalent to per Statute Acre.			Per Irish Acre.			Equivalent to per Statute Acre.			Per Irish Acre.			Equivalent to per Statute Acre.		
Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.
1	0	0	0	2	13	15	0	0	9	1	1	28	0	0	17	1	4
2	0	0	1	0	26	16	0	0	9	3	14	29	0	0	17	3	17
3	0	0	1	3	11	17	0	0	10	1	27	30	0	0	18	2	2
4	0	0	2	1	24	18	0	0	11	0	12	31	0	0	19	0	15
5	0	0	3	0	0	19	0	0	11	2	25	32	0	0	19	2	28
6	0	0	3	2	22	20	0	0	12	1	10	33	0	0	20	1	13
7	0	0	4	1	8	21	0	0	12	3	24	34	0	0	20	3	26
8	0	0	4	3	21	22	0	0	13	2	9	35	0	0	21	2	12
9	0	0	5	2	6	23	0	0	14	0	25	36	0	0	22	0	25
10	0	0	6	0	19	24	0	0	14	3	7	37	0	0	22	3	10
11	0	0	6	3	4	25	0	0	15	1	20	38	0	0	23	1	23
12	0	0	7	1	17	26	0	0	16	0	5	39	0	0	24	0	8
13	0	0	8	0	2	27	0	0	16	2	18	40	0	0	24	2	21
14	0	0	8	2	16												

Table VI.—Showing the relative Proportions of Produce on an Irish and Cunningham Acre.

Per Irish Acre.			Equivalent to per Cun. Acre.			Per Irish Acre.			Equivalent to per Cun. Acre.			Per Irish Acre.			Equivalent to per Cun. Acre.		
Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.	Cwt.	qr.	lb.
1	0	0	0	3	5	15	0	0	11	3	23	28	0	0	22	1	8
2	0	0	1	2	10	16	0	0	12	3	0	29	0	0	23	0	13
3	0	0	2	1	15	17	0	0	13	2	5	30	0	0	23	3	18
4	0	0	3	0	21	18	0	0	14	1	11	31	0	0	24	2	23
5	0	0	3	3	26	19	0	0	15	0	16	32	0	0	25	2	1
6	0	0	4	3	3	20	0	0	15	3	21	33	0	0	26	1	6
7	0	0	5	2	9	21	0	0	16	2	27	34	0	0	27	0	11
8	0	0	6	1	14	22	0	0	17	2	4	35	0	0	27	3	17
9	0	0	7	0	19	23	0	0	18	1	9	36	0	0	28	2	22
10	0	0	7	3	24	24	0	0	19	0	14	37	0	0	29	1	27
11	0	0	8	3	2	25	0	0	19	3	20	38	0	0	30	1	4
12	0	0	9	2	7	26	0	0	20	2	25	39	0	0	31	0	10
13	0	0	10	1	12	27	0	0	21	2	2	40	0	0	31	3	15
14	0	0	11	0	18												

TABLE VII.—Showing the relative Acreable Value of Irish and Statute Measure.

Per Irish Acre.			Equivalent to per Statute Acre.			Per Irish Acre.			Equivalent to per Statute Acre.			Per Irish Acre.			Equivalent to per Statute Acre.		
£	*s.*	*d.*	*£*	*s.*	*d. dec.*	*£*	*s.*	*d.*	*£*	*s.*	*d. dec.*	*£*	*s.*	*d.*	*£*	*s.*	*d. dec.*
0	0	1	0	0	0·617	0	3	0	0	1	10·2	0	16	0	0	9	10·4
0	0	2	0	0	1·2	0	4	0	0	2	5·6	0	17	0	0	10	5·8
0	0	3	0	0	1·8	0	5	0	0	3	1	0	18	0	0	11	1·2
0	0	4	0	0	2·4	0	6	0	0	3	8·4	0	19	0	0	11	8·6
0	0	5	0	0	3	0	7	0	0	4	3·8	1	0	0	0	12	4·1
0	0	6	0	0	3·7	0	8	0	0	4	11·2	1	10	0	0	18	6·2
0	0	7	0	0	4·3	0	9	0	0	5	6·6	2	0	0	1	4	8·3
0	0	8	0	0	4·9	0	10	0	0	6	2	2	10	0	1	10	10·4
0	0	9	0	0	5·5	0	11	0	0	6	9·4	3	0	0	1	17	0·4
0	0	10	0	0	6·1	0	12	0	0	7	4·8	3	10	0	2	3	2·5
0	0	11	0	0	6·7	0	13	0	0	8	0·3	4	0	0	2	9	4·6
0	1	0	0	0	7·4	0	14	0	0	8	7·6	4	10	0	2	15	6·7
0	2	0	0	1	2·8	0	15	0	0	9	3	5	0	0	3	1	8

TABLE VIII.—Showing the Comparative Value of the Statute and Irish Acres.

Per Statute Acre.			Equivalent to per Irish Acre.			Per Statute Acre.			Equivalent to per Irish Acre.			Per Statute Acre.			Equivalent to per Irish Acre.		
£	*s.*	*d.*	*£*	*s.*	*d. dec.*	*£*	*s.*	*d.*	*£*	*s.*	*d. dec.*	*£*	*s.*	*d.*	*£*	*s.*	*d. dec.*
0	0	1	0	0	1·6198	0	3	0	0	4	10·3	0	16	0	1	5	11
0	0	2	0	0	3·2	0	4	0	0	6	5·7	0	17	0	1	7	6·4
0	0	3	0	0	4·8	0	5	0	0	8	1·1	0	18	0	1	9	1·8
0	0	4	0	0	6·4	0	6	0	0	9	8·6	0	19	0	1	10	9·3
0	0	5	0	0	8	0	7	0	0	11	4	1	0	0	1	12	4·7
0	0	6	0	0	9·7	0	8	0	0	12	11·4	1	10	0	2	8	7
0	0	7	0	0	11·3	0	9	0	0	14	6·9	2	0	0	3	4	9·5
0	0	8	0	1	0·9	0	10	0	0	16	2·3	2	10	0	4	0	11·9
0	0	9	0	1	2·5	0	11	0	0	17	9·7	3	0	0	4	17	2·2
0	0	10	0	1	4·1	0	12	0	0	19	5·1	3	10	0	5	13	4·6
0	0	11	0	1	5·8	0	13	0	1	1	0·5	4	0	0	6	9	7
0	1	0	0	1	7·4	0	14	0	1	2	8	4	10	0	7	5	9·3
0	2	0	0	3	2·8	0	15	0	1	4	3·5	5	0	0	8	1	11·7

THIS BOOK IS DUE ON THE LAST DATE
STAMPED BELOW

AN INITIAL FINE OF 25 CENTS

WILL BE ASSESSED FOR FAILURE TO RETURN THIS BOOK ON THE DATE DUE. THE PENALTY WILL INCREASE TO 50 CENTS ON THE FOURTH DAY AND TO $1.00 ON THE SEVENTH DAY OVERDUE.

MAY 2 1934
MAR 28 1936
12May'56HK
APR 28 1956 LD
15May'56VL
[illegible] 1956 LD
3Nov'61SD
REC'D LD
OCT 20 1961
5Nov'61DS

REC'D LD
OCT 22 '61
SEP 10 '62 M
REC'D LD
AUG 30 1962

LD 21–100m-7,'33

YC 26869

105984

HD1387
L3

UNIVERSITY OF CALIFORNIA LIBRARY